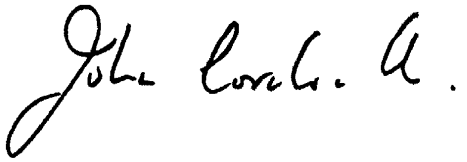
Gloucestershire Minerals Local Plan
CONTENTS

Gloucestershire Minerals Local Plan
FOREWORD

In preparing this first countywide Gloucestershire Minerals Local Plan (MLP), the County Council set itself high standards. These were not only in the areas normally associated with MLP formulation, such as identification of resources and environmental constraints, but also in public openness and, to an extent, involvement in the process. The Minerals Local Plan Policy Panel, comprising a cross section of elected Members of the Council and other interested parties, was open to the public to observe and established new boundaries in public participation. The Panel was convened to guide the preparation of the Consultation Draft Plan. The rigour of the Panel's investigations must be gratefully acknowledged, and although the increased public participation has delayed the completion of the adopted Plan, debate has been vigorous and widespread, which has inevitably improved the final document.

In preparing this Plan, Gloucestershire County Council has principally kept to the forefront its duty to meet the needs of the County for mineral products, whilst safeguarding the many environmental assets of Gloucestershire, in accordance with the principles of sustainable development. For aggregate minerals, such forecasts are set by Central Government and apportioned to Gloucestershire through the South West Regional Aggregates Working Party (SWRAWP). It is the role of the MLP to test the acceptability of this apportionment. Working within the framework of Central Government guidance to ensure future supply of minerals in the least environmentally damaging way, the County Council has attempted to address all pertinent issues.

Addressing the issues openly has however placed in sharp focus the dilemma that, despite aggregate minerals being geologically readily available within the County, the high quality of Gloucestershire's environment constrains sustainable exploitation in many areas. The conclusion which the process of plan preparation has achieved, is that with current knowledge of potentially workable resources and the level of existing permitted reserves, the County has difficulties in meeting its contribution to the regional apportionment of the forecast supply of aggregate minerals (specifically limestone aggregate) for the period of this Plan, i.e. 1997 - 2006. The County Council acknowledges this is a regrettable situation, but one which is a logical conclusion of following plan formulation in accordance with national and regional guidance. This position was supported by the Inspector following a Public Local Inquiry in 2000. The Plan was subsequently approved for adoption by Gloucestershire County Council at its meeting on the 19th February 2003.



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Gloucestershire Minerals Local Plan 1997 - 2006
EXECUTIVE SUMMARY

Chapter 1
Introduction

- Minerals are essential to maintaining people's quality of life.
- There are a range of minerals exploited in Gloucestershire, including limestone, sand, gravel, clay and coal.
- The County Council, as the Minerals Planning Authority (MPA), is required to produce a Minerals Local Plan (MLP), which will guide all future mineral development in Gloucestershire.
- Central Government guidance must be taken into account in the preparation of the MLP. The mineral policies of Gloucestershire's Structure Plan (Second Review) provide the strategic basis for the MLP.
- The Strategy of the MLP is to ensure that future mineral development in the County is sustainable.
- The Plan must go through various stages of consultation before it is formally adopted.
- Once adopted the policies of the Plan will be reviewed and monitored for effectiveness.

Chapter 2
Safeguarding and Enhancing the Environment

- Safeguarding the environment from the adverse impacts of mineral development is a key element of sustainable mineral development.
- A range of internationally, nationally and locally designated environmental assets form the environmental constraints hierarchy. This indicates the appropriate degree of protection the designated area is afforded from mineral development.
- The water environment is a critical natural resource that must be safeguarded.
- Where appropriate, an Environmental Assessment of proposals will be required in order to establish likely impacts of mineral development on aspects of the environment. Local amenity will be safeguarded through the delineation of buffer zones around future mineral development.
- Mineral development can contribute to the diversity of rural economies.
- Access to the countryside and open space should be improved, not compromised by future mineral development.
- The impact of mineral transportation must be appraised and minimised. Wherever possible alternative modes of transportation to roads must be encouraged in order to ensure future sustainable mineral development

Chapter 3
Aggregate Minerals Supply

- Gloucestershire is a regionally important source of aggregate minerals [limestone, sand and gravel].
- Government provides national forecast figures for the supply of aggregate minerals.
- The Regional Guideline figures for the Southwest are apportioned by the Southwest Regional Aggregates Working Party to the constituent MPAs.
- Gloucestershire's contribution to the Regional Apportionment is 19.4 mt for sand and gravel and 47.6 mt for crushed rock for the period 1992–2006 which must be tested for acceptability in the preparation of the MLP.
- The MPA will maintain a landbank of permitted reserves of at least 7 years for sand and gravel and also for crushed rock.
- For this Plan period an additional 17.2 mt of crushed rock (14.2 mt from Forest of Dean and

3 mt from the Cotswolds AONB) and 9.1 mt of sand and gravel (from the Upper Thames Valley) resources will be required
- 70% of the crushed rock aggregate is extracted in the Forest of Dean, the remaining 30% is extracted in the Cotswolds.
- Three Preferred Areas for crushed rock extraction [Drybrook, Stowehill/Clearwell and Stowfield] have been identified in the Forest of Dean.
- There is a potential shortfall of 7 mt of identified crushed rock resources, due mainly to the environmental and technical constraints to mineral development in the Forest of Dean.
- Two further Preferred Areas for future crushed rock extraction [Daglingworth and Huntsman's] have been identified in the Cotswolds.
- Sand and gravel aggregate will continue to be extracted from the Upper Thames Valley.
- Four Preferred Areas for future sand and gravel extraction [Dryleaze, Cerney Wick, Horcott/Lady Lamb Farm and Kempsford/Whelford] have been identified in the Upper Thames Valley.

Chapter 4
Other Non-Energy Minerals

- Gloucestershire contains a locally important source of non-aggregate minerals.
- Limestone and sandstone is used for a range of building purposes.
- The supply of building stone is important to maintain the vernacular of the Cotswolds AONB and also help maintain and enhance the local distinctiveness of other areas of the County, for example the Forest of Dean.
- Future areas for working natural building stone have not been identified in this Plan.
- The MPA will seek to ensure the supply of building stone, however, new proposals will require careful consideration,
- Clay is extracted in the County for the following: bulk fill, waste disposal, floods defence and brick manufacture.
- There are two brick works in the County, which at this time have sufficient reserves.
- With the exception of the brick works the demand for clay is likely to be for specific end-use requirements, areas for future clay extraction have therefore not been identified in this Plan.
- Specific Policies for the consideration of both building stone and clay proposals are contained in this plan.
- Iron Ore has been worked in the Forest of Dean since Roman times. However, this resource is no longer utilised. If proposals came forward it would be considered against the policies of this plan.

Chapter 5
Energy Minerals

- The energy minerals in Gloucestershire are coal and potentially oil and gas.
- Government guidance provides guidance on the extraction of coal and will shortly be reviewed.
- The Forest of Dean Coalfield covers an area of 90 km^2.
- It is estimated that the remaining coal deposits amount to 12 mt.
- Coal has not been worked by deep mine method for some time, but a few drift mines still operate.
- The rights of the inhabitants of the Forest of Dean (who fulfil the relevant criteria) to work coal are enshrined in ancient law and custom.
- Mineral exploration does not constitute a presumption in favour of mineral exploitation.
- The MPA encourages those carrying out these investigations, to make findings available to the Authority. All such information will be treated in strictest confidence.
- There is a range of environment constraints to the working of coal, in particular by open cast method, which must be considered.
- Proposals for coal extraction by open cast method must be carefully considered. Small scale underground extraction of coal will be supported in order to protect the industrial heritage of the Forest of Dean.
- A by-product of coal extraction is the creation of colliery spoil tips.
- Disposal of colliery spoil will be carefully controlled.

- Existing spoil tips which now form part of the landscape will be safeguarded.
- Where appropriate the reworking of certain spoil tips for secondary materials will be considered.
- It is the responsibility of the MPA to make planning decisions on on-shore oil and gas development.
- Exploration for oil and gas requires planning permission.
- Since the Second World War oil and gas exploration has taken place, although not in recent years.
- Oil and gas development will be controlled by the policies of this Plan.

Chapter 6
Mineral Exploration

- Exploration of minerals is a prerequisite of mineral exploitation.
- The General Permitted Development Order 1995 makes such operations permitted development.
- However, the MPA must be notified, and may negotiate improvement to proposals.
- Adverse effects of mineral exploration must be minimised.

Chapter 7
Safeguarding and the Efficient Use of Mineral Resources

- Primary aggregates are a finite natural resource.
- The MPA wishes to promote the efficient use of minerals and the utilisation of recycled and secondary materials.
- Government guidance seeks to bring a gradual change from the reliance on traditional land-won minerals.
- Currently Gloucestershire has limited potential for significant use of recycled and secondary materials.
- The processing of such materials has similar environmental impacts to the working of primary materials.
- The MPA will ensure that future mineral development takes account of the waste hierarchy, by reducing the amount of mineral waste created and where it does occur, ensuring it is utilised.
- Mineral sites may lend themselves to the importation and processing of secondary minerals and recycled materials.
- The MPA will endeavour to safeguard the mineral resource of the County from sterilisation by other forms of development.
- Mineral Consultation Areas (MCA) can be delineated by the MPA.
- MCAs ensure that the MPA is consulted about other forms of proposed development.
- There is one MCA in Gloucestershire; to safeguard the sand and gravel resources of the Upper Thames Valley.
- The MPA may delineate more MCAs where appropriate.
- There is no presumption that mineral working is likely to be approved in such areas.

Chapter 8
Reclamation of Worked-Out Mineral Sites

- Mineral development is not a permanent land-use.
- Once restored, worked-out mineral sites can enhance the environment.
- Proposals for mineral development which do not have a satisfactory reclamation scheme will not be permitted.
- Progressive restoration techniques are promoted by the MPA to minimise the disruption arising and to increase chances for successful reclamation.
- Previously, mineral sites have not always been reclaimed to a satisfactory standard.
- Opportunities to improve poorly reclaimed sites will be encouraged.

- There is a range of after-uses for worked out mineral sites. The MPA will liase with all interested parties to ensure the most beneficial after-use is secured.

Chapter 9
Development Control Criteria for Future Mineral Development

- The Development Control Criteria provides guidance on the content of applications for future mineral development.
- The MPA will ensure that all environment effects of mineral development are considered at the application stage and mitigated.
- Conditions will be attached to grants of planning permission to control negative effects of the development.
- The impact of ancillary development to mineral extraction will be considered and mitigated.
- The importation of materials for reclamation will not be encouraged.
- The MPA will ensure that mineral development is compatible with adjacent aerodromes.
- The MPA will seek planning obligations that address issues that are not covered by conditions to grants of planning permissions.
- Borrow pits for specific construction projects will be permitted if they meet the relevant criteria.
- The MPA will monitor mineral development to ensure unauthorised development is not carried out.
- Enforcement action will be taken in cases of unauthorised development.
- The mineral industry will be encouraged to assist the MPA in site monitoring by self-regulation.
- Liaison committees will be encouraged to ensure that local communities are kept informed of the progress of sites and are given the opportunity to raise questions or concerns about the mineral development.
- The MPA will require full details of all matters relating to proposed mineral development in order to determine the proposal

Chapter 10
Inset Maps and Proposals

- Chapter 10 provides area profiles for all Preferred Areas identified for future mineral development within this Plan.
- The area profiles provide a list of possible constraints and criteria for development, which need to be addressed at the application stage of mineral development, in line with other policies of this Plan.
- This Chapter contains the following Preferred Area profiles:

1. Stowe Hill/Clearwell
2. Drybrook
3. Stowfield
4. Daglingworth
5. Huntsmans
6. Dryleaze Farm
7. Cerney Wick
8. Horcott/Lady Lamb Farm
9. Kempsford/Whelford

Chapter 1
INTRODUCTION

1.1 Why do we need Minerals?

1.1.1 Minerals play a vital role in the nation's economy and touch upon everyone's life. They are essential to the maintenance of people's quality of life, being used not only for construction purposes but also in processes and products as diverse as iron and steel smelting and the manufacture of glass, plastics, cement, medicines, foods and cosmetics. They are necessary for most things we do in everyday life, domestic, commercial and industrial. Minerals are crucial for housing, schools, hospitals, factories, offices and rail/road maintenance and construction.

1.1.2 The move towards sustainable development requires us to reassess and manage the use of finite and environmentally sensitive natural resources such as minerals, and the impact of their extraction on the environment. However, until sustainable sources of alternative materials, particularly for aggregate, can be identified and properly utilised, the continued careful planning of the extraction of primary minerals is essential.

1.2 Mineral Resources of Gloucestershire

1.2.1 Gloucestershire has a diverse geological base of mainly sedimentary rocks that include compacted clays, silts, sands, sandstones and limestones. They provide significant deposits of minerals of actual and potential economic worth, including hardrock for aggregates and natural building materials, coal and clay. In addition these rocks [the "solid" geology] are patchily but extensively overlain, mainly in river valleys and particularly those of the Thames and Severn/Avon, by varied superficial deposits [the "drift" geology] comprising silts, clays, sands and gravels. They yield important sources of sand and gravel for the construction industry.

1.2.2 Gloucestershire may conveniently be divided into a number of physiographic areas coincident with the underlying geology, each with its own resource potential:

Physiographic Area	Type of Mineral
Forest of Dean	❑ *Limestone [Carboniferous]* ❑ *Sandstone* ❑ *Clay* ❑ *Iron Ore* ❑ *Coal*
Cotswolds	❑ *Limestone [Jurassic]*
Upper Thames Valley	❑ *Sand and Gravel* ❑ *Clay* ❑ *Cornbrash [Jurassic Limestone]*
Vale of Moreton	❑ *Sand and Gravel*
Severn Vale	❑ *Sand and gravel* ❑ *Clay*

Plan 1 shows a simplified geology of the County. The corresponding mineral resource areas of Gloucestershire are described in detail in the relevant Chapters of the Plan. However, Plan 2 provides an overview of these resource areas together with the current sites with planning

permission for mineral extraction. [There may be a number of currently inactive sites and sites where future mineral working may prove to be impractical]. Further, a brief description of the geological areas of Gloucestershire is provided in Appendix D.

1.3 Why we need a Minerals Local Plan

1.3.1 The duty of all Minerals Planning Authorities [MPA] to prepare a Minerals Local Plan [MLP] is laid down by the Town and Country Planning Act 1990, as amended by the Planning and Compensation Act 1991. Gloucestershire County Council as the MPA is accordingly required to prepare a plan for its area, formulating detailed policies to control and guide all future mineral development in the County. This includes the winning and working of minerals and the deposit of mineral waste.

1.3.2 The incentive for a countywide Plan for issues related to minerals development comes from the central government instruction for a plan led system of decision making in all areas of planning. Gloucestershire County Council has looked upon this additional duty as an opportunity not only to undertake a thorough appraisal of the variety and location of mineral development within the County but also as a vehicle by which it can pursue its policies of open government and public participation.

1.3.3 The control of mineral development has hitherto been carried out within a framework formed by national guidance and the policies of the Gloucestershire's Structure Plan, First Alteration [1992]. The latter gives strategic guidance to all forms of development within the County including minerals, and following Second Review, the Structure Plan was adopted November 1999 [See paragraph 1.4.3]. The MLP is a more detailed document providing policy statements on all aspects of mineral development and in particular identifies specific resources to ensure a supply of minerals during the Plan period, which is 1997 – 2006. The resource requirements in the Plan were initially assessed for a base date of 1997, however any reassessment of Plan requirements can be indicated throughout all stages of Plan preparation, such as the published Revised Deposit or Proposed Modifications, as and when the information is available. Aggregate requirements for the remainder of the Plan period are indicated in Appendix E of this Plan.

1.3.4 The MLP provides the opportunity for the first time to tie together policies for mineral development based on a comprehensive assessment of potential, and actual, environmental and other constraints and to include the sustainable development aspirations of Gloucestershire.

1.4 Policy Context for the Minerals Local Plan

1.4.1. **National Policy Guidance:** A series of Mineral Planning Guidance Notes [MPGs] and Planning Policy Guidance Notes [PPGs], provide central government guidance to the MPA on matters relating to minerals planning. This guidance must be taken into account in the preparation of development plans. Key national guidance for the preparation of the Gloucestershire MLP is:

- **MPG1** "General Considerations and the Development Plan System" [1996,] and **PPG12** "Development Plans" [1999] which together provide general guidance on the content and preparation of the MLP,
- **MPG3** "Coal Mining and Colliery Spoil Disposal" [Revised March 1999],
- **MPG6**[1] "Guidelines for Aggregates Provision in England" [2nd edition, 1994] provides specific advice on the provision of aggregate minerals in the MLP,

[1]MPG 6 is likely to be reviewed in 2003

PLAN 1. SIMPLIFIED GEOLOGICAL MAP OF GLOUCESTERSHIRE
Scale: approx 1:250,000

DRIFT

(SEVERN VALE) | (UPPER THAMES) — UNDIFFERENTIATED SUPERFICIAL DEPOSITS, INCLUDING ALLUVIUM, TERRACE GRAVELS, FAN GRAVELS AND HEAD

SOLID

JURASSIC - KELLAWAYS BEDS & OXFORD CLAY [mainly mudstones]

JURASSIC - INFERIOR & GREAT OOLITE GROUPS [mainly limestones]

JURASSIC - MIDDLE & UPPER LIAS [mainly clays, silts & sands]

JURASSIC - LOWER LIAS [mainly mudstones]

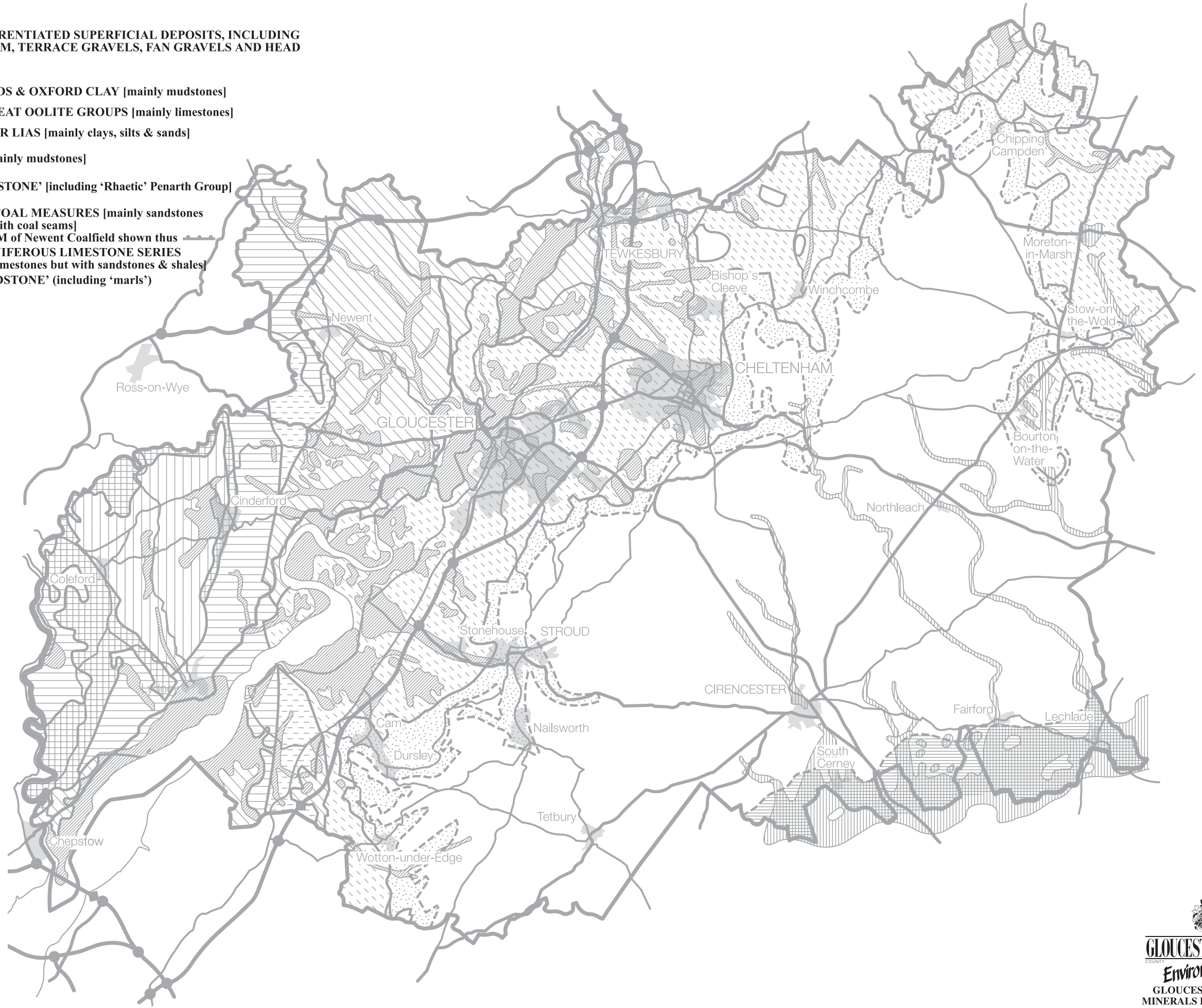
TRIASSIC - 'NEW RED SANDSTONE' [including 'Rhaetic' Penarth Group]

CARBONIFEROUS - UPPER COAL MEASURES [mainly sandstones & clays with coal seams]
note: UCM of Newent Coalfield shown thus

CARBONIFEROUS - CARBONIFEROUS LIMESTONE SERIES [mainly limestones but with sandstones & shales]

DEVONIAN - 'OLD RED SANDSTONE' (including 'marls')

SILURIAN & CAMBRIAN



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PLAN 2. MINERAL RESOURCES OF GLOUCESTERSHIRE AND AREAS OF WORKING

Scale: approx 1:250,000

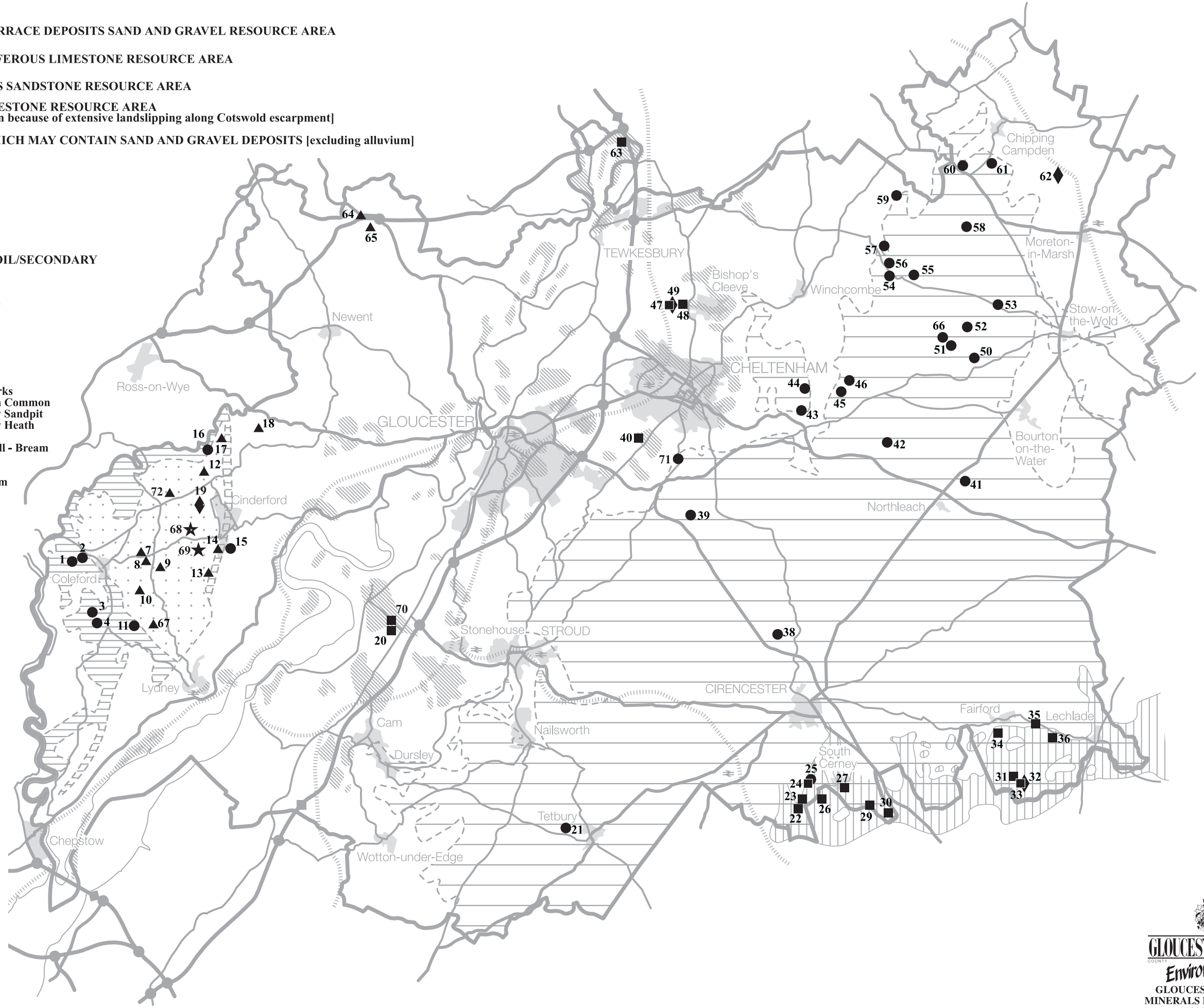
MINERALS RESOURCE AREAS

- UPPER THAMES VALLEY TERRACE DEPOSITS SAND AND GRAVEL RESOURCE AREA
- FOREST OF DEAN CARBONIFEROUS LIMESTONE RESOURCE AREA
- COAL AND CARBONIFEROUS SANDSTONE RESOURCE AREA
- COTSWOLDS JURASSIC LIMESTONE RESOURCE AREA
  [note: boundary in part uncertain because of extensive landslipping along Cotswold escarpment]
- OTHER DRIFT DEPOSITS WHICH MAY CONTAIN SAND AND GRAVEL DEPOSITS [excluding alluvium]

MINERALS WORKINGS

- ● LIMESTONE
- ▲ SANDSTONE
- ■ SAND / GRAVEL
- ♦ CLAY
- ★ REWORKING COLLIERY SPOIL/SECONDARY

1 Stowfield
2 Rogers
3 Clearwell
4 Stowe Hill
7 Wimberry
8 Bixhead
9 Minetrain
10 Birch Hill
11 Bream
12 Nailbridge
13 Meezy Hurst
14 Perseverance
15 Shakemantle
16 Drybrook
17 Puddlebrook
18 Wilderness
19 Royal Forest of Dean Brickworks
20 Netherhills
21 Veizey's (Chavenage)
22 Somerford Keynes
23 Spratsgate Lane
24 Shorncote
25 Shorncote
26 Cotswold Community
27 South Cerney
29 Oaktree Fields
30 Cerney Wick
31 Manor Farm
32 Stubbs Farm
33 Stubbs Farm
34 Horcott
35 Milestone House
36 Thornhill Farm
38 Daglingworth
39 Birdlip
40 Shurdington
41 Farmington
42 Hazleton
43 Syreford
44 Benshill
45 Soundborough
46 Oxleaze
47 Wingmoor Farm
48 Wingmoor Farm
49 Wingmoor Farm
50 Brockhill
51 Grange Hill
52 Huntsman's
53 Swellwold
54 Cotswold Hill
55 Oathill
56 Three Gates
57 Guiting
58 Hornsleasow
59 Shenberrow
60 Happylands
61 Stanley's
62 Northcot Works
63 Showborough Common
64 Bromsberrow Sandpit
65 Bromsberrow Heath
66 Tinkers Barn
67 Old Flour Mill - Bream
68 Foxes Bridge
69 Lightmoor
70 Nastfield Farm
71 Crickley Hill
72 Great Berry



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GLOUCESTERSHIRE MINERALS LOCAL PLAN 1997-2006

- **MPG7** "The Reclamation of Mineral Workings" [revised edition, 1996] which outlines considerations when developing a policy framework for the reclamation of worked out mineral sites,
- **PPG7** "The Countryside Environmental Quality and Economic and Social Development" [Revised 1997], **PPG9** "Nature Conservation" [1994], **PPG13**[2] "Transport" [1994], **PPG15** "Planning and the Historic Environment" [1994] and **PPG16** "Archaeology and Planning" [1990] which together provide guidance on a range of issues important to sustainable minerals planning,
- **Other Guidance:** Central Government White Papers provide guidance on the strategy and detailed policies of the MLP, for example, UK Strategy for Sustainable Development and The Rural White Paper.

1.4.2 **Regional Policy Guidance (RPG10):** Regional Planning Guidance Note 10 "Regional Planning Guidance for the South West" [1994] provides guidance on regional planning issues in the South West and was taken into account in the preparation of the MLP. Central Government has given Regional Planning Bodies [RPBs] greater powers to draft, review and implement regional planning guidance. In addition, the South West Regional Aggregates Working Party [SWRAWP] is a technical working group whose role is to provide regional information and technical advice to Central Government on the supply and demand for primary and secondary aggregates. The Working Party, in addition, monitors the supply of and demand for aggregates, and provides a forum for facilitating the apportionment to individual counties of the regional guidelines of MPG6. PPG11 'Regional Planning' (2000) indicates that the SWRAWP will continue to provide advice to the South West Regional Planning Body. Replacement Regional Planning Guidance for the South West was issued September 2001. The Guidance has no material effect on the content of this Plan. It is likely, however that any subsequent revision of MPG6 will require an urgent review of regional mineral policies, and this will be relevant to future reviews of this Plan.

1.4.3 **Local Policy Context:** The Structure Plan, Mineral and Waste Local Plans and District Local Plans comprise the development plan for the County:

- ***The Gloucestershire Structure Plan*** has completed its second review, and was adopted in December 1999. The mineral policies in the Structure Plan provide the strategic basis for the preparation of the Gloucestershire MLP. The MLP, Waste Local Plan (WLP) and district local plans must be in general conformity with the Structure Plan.

- ***The Minerals Local Plan*** as the first county-wide minerals plan replaces the non-statutory Upper Thames Policy Review (1993) that has been adopted by the County Council for development control purposes pending the preparation of a MLP. The latter provided policy guidance for sand and gravel extraction in the Upper Thames Valley.

- ***The Gloucestershire Waste Local Plan*** is the first county-wide waste local plan and was subject to a Public Local Inquiry in 2001. The adopted Waste Management Strategy (1997) provides guidance on the proposed approach to future sustainable waste management in the County.

- ***District Local Plans*** are prepared by the six District Councils in Gloucestershire. They set out detailed policies on specific proposals for development and land-use and guide day-to-day planning decisions. The preparation and adoption of these plans vary according to the individual district authorities.

[2] PPG13 – Consultation Draft, October 1999

1.5 Strategy for Sustainable Minerals Development

Background

1.5.1 Sustainable development is development, which meets the needs of the present generation without compromising the ability of future generations to meet their own needs [Brundtland 1987].

1.5.2 Central Government has identified land-use planning as a key element in the delivery of sustainable development; however the concept of sustainable development requires the consideration of issues which are peripheral to the traditional planning role. It is important to recognise that the MLP is just one of various control documents which will assist in the delivery of sustainable development.

1.5.3 The mineral policies of the Gloucestershire Structure Plan, Second Review provide a sustainable minerals development strategy for the MLP. [See Appendix B]. All policies developed for the MLP are consistent with the principles of sustainable development, as they are applied to minerals planning in central government guidance.

Defining Sustainable Mineral Development

1.5.4 Gloucestershire has a wealth of environmental assets that need to be safeguarded from the adverse impact of mineral development. An appropriate balance must be struck between the need for the mineral and the environmental impact of mineral development. National policy guidance indicates a hierarchy of environmental constraints to mineral development. Defining sustainable mineral development is key to the strategy for this Plan. Mineral resources are finite and the exploitation of such can have a significant impact on the local environment. However, the continued use of minerals is necessary to ensure people's quality of life. Although limestone, sand and gravel [the main minerals found and worked in Gloucestershire], are not presently in short supply, continued demand at current and forecast rates may not be sustainable in the longer term. The UK Strategy on Sustainable Development indicates that there is little chance of physical exhaustion of the majority of minerals, which are worked in Britain. However, it suggests that it is becoming increasingly difficult to identify sites for future mineral working outside environmentally constrained areas.

1.5.5 Sustainable mineral development requires an understanding of, and broad agreement on crucial aspects of the physical environment, the threats to that environment and the measures available for mitigation, together with a view on what contributes to people's quality of life. Aspects of the wider environment will need to have values ascribed in order that an appropriate balance is struck between development and preservation. Therefore, our knowledge of the environment and the impact mineral development has on it, needs to be continually refined.

1.5.6 The concept is evolving, indicators of sustainable development will change over time as knowledge of the environment improves and perceptions change. Thus sustainable mineral development should be viewed as an incremental process which requires a long term and flexible strategy. For this reason it is inappropriate to apply a rigid definition of sustainable development, rather it is more valuable to understand the concept of sustainable development in the context of minerals planning and recognise that the planning system is only one of the ways of working towards delivering it:

"Sustainable Mineral Development in Gloucestershire; concerns the regulation of mineral development and human behaviour and practice related to such development in order to control the use of natural resources, ensure the protection and enhancement of the environment including amenity and maintain biodiversity. [The Authority will seek to achieve this in conjunction with other agencies as well as National Government]"

In this context the regulation of human behaviour includes particular practices of mineral development and mineral working and how these can be controlled. The definition above recognises that as well as the Mineral Planning Authority, other agencies will have a role to play in achieving this aim.

Aims and Objectives of the Minerals Local Plan

1.5.7 In the context of sustainable development the possible impacts [negative and positive] of mineral development on the environment are as follows:

- *Land take,*
- *Exploitation of a natural resource [i.e. the primary mineral as well as the consumption of fossil fuels in the processing and transportation of minerals],*
- *Possible detrimental effects on the quality and/or quantity of water resources,*
- *Effects on nature conservation,*
- *Loss of the best and most versatile agricultural land,*
- *Degradation of local landscape,*
- *Degradation to archaeological sites and to the historic environment,*
- *Degradation of local amenity by physical intrusion [e.g. noise, dust, blasting and visual intrusion],*
- *Transportation of minerals contributing to environmental degradation,*
- *Social and economic benefits and disbenefits of working minerals, and*
- *The potential for reclaiming worked out mineral sites to a range of after-uses.*

1.5.8 The following are aims and objectives of the MLP which together will help achieve future sustainable mineral development:

- *Control of minerals supply in order to meet society's needs,*
  See Chapters 3, 4, 5 and 6
- *Encourage optimum use of primary materials,*
  See Chapter 4, 5 and 7
- *Prevent mineral resources from being sterilised by development,*
  See Chapter 7
- *Encourage the use of secondary [waste] and recycled materials,*
  See Chapter 7
- *Protect the water environment,*
  See Chapter 2, 4, 5, 8 and 9
- *Protect and/or recreate wildlife habitats,*
  See Chapter 2, 4, 5, 8 and 9
- *Protect and enhance national, regional and local biodiversity,*
  See Chapter 2, 4, 5, 8 and 9.
- *Ensure that the best & most versatile agricultural land is protected,*
  See Chapter 2, 8 and 9
- *Protect and/or enhance local landscapes & built heritage,*
  See Chapter 2, 4, 5, 8 and 9
- *Protect archaeological sites and the historic environment,*
  See Chapter 2, 4 and 5
- *Protect and enhance local amenity,*
  See Chapter 2, 4, 5, 8 and 9
- *Develop an appropriate transport system for the movement of minerals,*
  See Chapter 2, 4, 5 and 9
- *Recognise the direct and indirect economic benefit generated by mineral development, and*
  See Chapter 2 and 5
- *Ensure that worked out mineral sites are beneficially reclaimed and will enhance the environment.*
  See Chapter 8 and 9

1.5.9 The aims and objectives of the MLP have been clearly identified by adopting a strategy based on the principles of sustainable development. This Plan contains detailed policies which seek to achieve the objectives stated above. Methods for appraising and monitoring these aims have been devised, for example, the Strategic Environmental Appraisal [SEA], continual monitoring of the effectiveness of the MLP policies and the 5 year plan review. As an evolving concept, sustainable development cannot be constrained by time periods as statutory plans are. The plan

period for the MLP [1997 – 2006] should be viewed as the first step of many in achieving sustainable mineral development and it is therefore essential to establish a long-term strategy, which moves far beyond the current plan period. In addition, although the limitations of the planning system have been identified as a problem for the delivery of sustainable development this should not be used as an excuse to prevent positive steps being taken.

1.6 Format of Plan

1.6.1 This is the Adopted Minerals Local Plan, which includes the detailed policies to guide future sustainable mineral development in Gloucestershire. Policies are defined in **bold type.** Reasoned justifications usually precede the policy and are cross referenced by means of a small box, ▭ beside the paragraph, indicating the relevant policy. The policies and reasoned justification in this Plan together provide an approach to mineral planning in Gloucestershire and should be read as a whole.

1.6.2 The Plan is divided into various distinct chapters, which provide advice to the minerals industry and local communities on all matters relating to minerals development in the County. The main issues considered in this Plan are; safeguarding of the County's environmental assets, the supply of aggregate minerals, reclamation of worked out mineral sites, a policy context for the working of other minerals in the County and the Development Control Criteria against which future applications for mineral development will be considered. The relevant MLP aims and objectives, a summary list of the Policies in each chapter and the appropriate Structure Plan Policies are provided at the beginning of each respective chapter. A Glossary of Terms and a list of acronyms and abbreviations are provided in Appendix C1 and C2 to assist with definitions of technical and unfamiliar terms. A summary of all the MLP policies are contained in Appendix A.

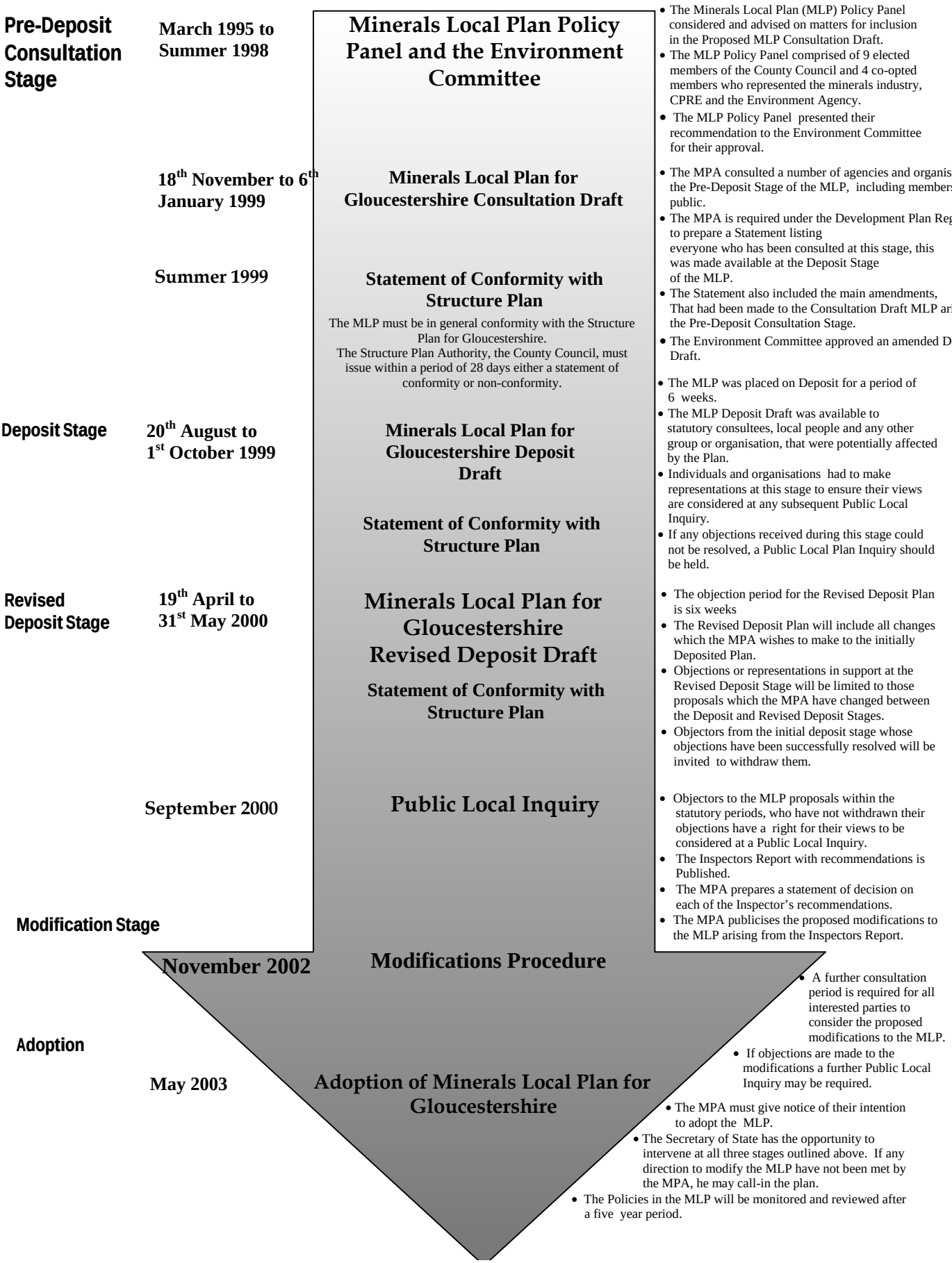
1.7 Process of Adopting the Minerals Local Plan and Timetable

1.7.1 Gloucestershire County Council's ethos of openness led it to reject the commonly adopted approach of formulating a draft plan in relative secrecy prior to statutory public consultation. Instead the County Council appointed a Policy Panel comprising County Councillors, representatives of other outside interests and the minerals industries to act as a steering group for the plan preparation process. The Panel meetings were open to the public and welcomed contributions from District Councils, Parish Councils, interest groups and the minerals industry. One important aim of the Panel was to encourage wider public involvement within existing resources.

1.7.2 A pre-deposit draft of the Plan was accepted by the Environment Committee for the purposes of consultation. The Consultation period of the Plan commenced 12th November 1998 and ended 6th January 1999. All representations arising from this consultation period were taken into account in the drafting of the Deposit Draft Plan. This was placed on Deposit from 20th August 1999 to 1st October 1999. Full consideration of all representations was made and any resultant changes were included in a Revised Deposit Plan, placed on Deposit from 19th April to 31st May 2000, which was subject to a Public Local Inquiry between 5th September to 2nd November 2000, with subsequent modifications being proposed in 2002.

1.7.3 Figure 1 outlines the subsequent stages and approximate timetable for the adoption of the MLP. Additionally, it indicates the various opportunities for groups, organisations and individuals to make representations regarding the content of the Plan. The shaded section of the diagram indicates the current stage of the Plan.

FIGURE 1: PROCESS OF ADOPTING THE GLOUCESTERSHIRE MINERALS LOCAL PLAN



Please Note the above is intended to provide general guidance on the Plan Preparation Procedure. For full details on this matter please refer to the Town and Country (Development Plans) Regulations 1991 (as amended 1999) and PPG 12 "Development Plans (1999)" and "Local Plans and Unitary Development Plans – Guide to Procedures (1999)".

1.8 Monitoring and Review

1.8.1 The effectiveness of the MLP policies and issues closely related to minerals planning will be continually monitored throughout the plan period. Areas that will require particular focus are:

- The effectiveness of policies for the supply of primary aggregates,
- The level of aggregate sales compared to forecast figures,
- The levels of permitted reserves,
- The use of secondary [waste] and recycled materials in place of primary minerals,
- Changes in approach to transportation of minerals in the County,
- The effectiveness of restoration and environmental protection policies to ensure that mineral development where permitted does not degrade the environment,
- The impact (positive or negative) of future mineral development on national, regional and local biodiversity,
- The identification of buffer zones to protect sensitive land-use,
- The delineation of railhead and wharves suitable for safeguarding,
- How the policies support and guide the review of old mineral permissions and the periodic review of more recent permissions in the County, under the Environment Act 1995, and
- The implementation of the revised Town and Country Planning (Environmental Impact Assessment) Regulations 1999.

1.8.2 The MLP will be reviewed after adoption to ensure that the Plan and its strategy remain up-to-date and take account of any changes in central government policy guidance. It will also allow amendments to policy approaches resulting from the monitoring of the MLP.

1.9 Strategic Environmental Appraisal of the Minerals Local Plan

1.9.1 In accordance with Central Government guidance, all policies in the Pre Deposit and Deposit Drafts of the Plan have been tested for environmental acceptability and consistency using Strategic Environmental Appraisal [SEA]. SEA provides a rational, integrated and consistent approach to testing policy. A SEA was devised to assist the preparation of the MLP, to ensure that the principles of sustainable development were fully considered and integrated in the plan preparation process. This approach is supported by the Institute of Environmental Assessment. Subsequently, consultants were appointed to carry out an impartial SEA of the Consultation Draft MLP. The conclusions and recommendations of this SEA were considered in the drafting of this Plan. To ensure that environmental issues are considered at all stages of plan adoption the Deposit Plan has also been subject to a SEA. No further SEA has been undertaken to the Revised Deposit Draft of the Plan as it is considered that no fundamental material changes to the Plan have been made which would alter the conclusion and recommendations of the SEA and addendum SEA already carried out.

Chapter 2
SAFEGUARDING & ENHANCING THE ENVIRONMENT

Sustainable Development Objectives:

- *Protect the water environment,*
- *Protect and/or recreate wildlife habitats and species,*
- *Protect and enhance national, regional and local biodiversity,*
- *Ensure that the best & most versatile agricultural land is protected,*
- *Protect and/or enhance local landscapes & built heritage,*
- *Protect archaeological sites and the historic environment,*
- *Protect and enhance local amenity,*
- *Develop an appropriate transport system for the movement of minerals,*
- *Recognise the direct and indirect economic costs and benefits generated by mineral development.*

SUMMARY OF POLICIES		
Policy No.	**Subject**	**Structure Plan Policies [See Appendix B]**
E1	International and European Sites of Nature Conservation	M3
E2	Areas of Outstanding Natural Beauty	M3
E3	Nationally Important Sites of Nature Conservation	M3
E4	Nationally Important Archaeological Sites (including Scheduled Ancient Monuments)	M3
E5	Listed Buildings and Conservation Areas	M3
E6	Other Nationally Important Sites of Historic Interest	M3
E7	Best and Most Versatile Agricultural Land	M3
E8	Regionally and Locally Important Designated Sites	M3
E9	Green Belt	M3
E10	National, Regional and Local Biodiversity	M4
E11	Protection of the Water Environment	M3/M4
E12	Flood Risk/Flood Plain Development	M3/M4
E13	Riparian Buffer Zones	M3/M4
E14	Protecting the Local Environment – County-Wide	M4
E15	Protecting the Local Environment – Cotswolds Water Park	M4
E16	Economic Development	M4
E17	Safeguarding Public Access	M4
E18	Opportunities for Improved Access	M4
E19	Transport	M5
E20	Highways	M5
E21	Safeguarding Railhead and Wharves	M5

2.1. Introduction

2.1.1 The winning and working of minerals can have a significant affect on the local environment. The aim of the Mineral Planning Authority [MPA] is to limit the adverse environmental impacts and where possible seek to enhance the environment in accordance with the principles of sustainable development.

2.2 Environmental Constraints Hierarchy

2.2.1 Gloucestershire has a wealth of environmental assets that need to be safeguarded from the adverse impact of mineral development. An appropriate balance must be struck between the need for the mineral and the environmental impact of mineral development. National policy guidance indicates a hierarchy of environmental constraints to mineral development.

2.2.2 The environmental constraints hierarchy recognises the appropriate degree of protection which is afforded to a range of environmental assets; for instance:

PRINCIPAL CONSTRAINTS	PRIMARY CONSTRAINTS	SECONDARY CONSTRAINTS
International and European sites must be given the strongest protection	National sites should only be affected by mineral development in exceptional circumstances.	Regional and local sites also merit protection but there needs to be a clear distinction in policy approach between the various designations
1. Ramsar Sites 2. Designated and Candidate Special Areas of Conservation 3. Classified and possible Special Protection Areas	1. Areas of Outstanding Natural Beauty 2. Sites of Special Scientific Interest 3. National Nature Reserves 4. Scheduled Ancient Monuments 5. Nationally Important Archaeological Sites and Settings 6. Listed Buildings/Conservation Areas 7. Registered Historic Parks and Gardens 8. Registered Battlefields 9. Best and Most Versatile Agricultural Land 10. Water Environment	1. Special Landscape Areas 2. Local Nature Reserves 3. Wildlife Corridors 4. Locally Important Archaeological Remains 5. Locally Important Historic Parks and Gardens 6. Regionally Important Geological and Geomorphological Sites. 7. Green Belt

Principal Environmental Constraints

2.2.3 The following designations by virtue of their rarity, fragility and diversity should be afforded a high degree of protection if not absolute protection. Mineral development, which would compromise such sites, should not be permitted.

International and European Sites of Nature Conservation

2.2.4 Areas of high nature conservation value that have been designated under International Conventions or European Directives, for example Ramsar Sites for the protection of wetland habitats, Special Protection Areas [SPA] (including potential SPA) and Special Areas of Conservation [SAC] (including candidate SAC), are considered to be a principle constraint to mineral development. The Conservation (Natural Habitats, &c.) (Amendment) (England) Regulations 2000 and Planning Policy Guidance Note 9 "Nature Conservation" [PPG9] provide the legal and policy framework which must be applied when proposed development may affect the integrity of any such site. There are two sites designated as both Ramsar and a SPA and a number of candidate and proposed SACs designated in the County. [See Table below]

E1

International and European Sites of Nature Conservation in Gloucestershire		
Ramsar	**Special Areas Of Conservation**	**Special Protection Areas**
Severn Estuary Walmore Common	Severn Estuary (Possible) River Wye (Candidate) Wye Valley Woodlands (Candidate) Rodborough Common(Candidate) Cotswolds Beechwoods(Candidate) WyeValley and Forest of Dean Bat Sites(Candidate) Dixton Wood (Candidate) North Meadow (Candidate)1 Clattinger Farm (Candidate)2	Severn Estuary Walmore Common

Policy E1

Proposals for mineral development will not be permitted where they are likely to have a significant adverse effect on the integrity of the following designated areas:

1. **Ramsar,**
2. **Special Areas of Conservation [including candidate SACs],**
3. **Special Protection Areas [including potential SPAs].**

Primary Environmental Constraints

2.2.5 Primary environmental constraints need not rule out mineral development, but do however impose strict limitations and will only be permitted in exceptional circumstances.

2.2.6 Where it is appropriate for the development to be permitted, it must be to the highest standard of working and reclamation, as guided by the MLP Development Control Criteria [See Chapter 9]. The MPA will consider the use of conditions or negotiation of planning obligations to ensure

[1 & 2] Not in Gloucestershire but abuts County boundary near to mineral working areas.

protection and, where possible, enhancement of the natural and historic environment of the area at working and reclamation stages.

Areas of Outstanding Natural Beauty (AONB)

2.2.7 E2 Over half of Gloucestershire lies within Areas of Outstanding Natural Beauty [Wye Valley, Cotswolds and Malvern AONB] which constitute a primary environmental constraint. Currently, the Wye Valley and Cotswolds AONB are the source of one half of the crushed rock aggregate production and contain about three-quarters of the reserves of hardrock. If these areas were to be excluded from the mineral resource potential it would not be possible to meet Gloucestershire's apportionment of the Regional Guidelines of MPG 6 "Aggregate Provision in England" [MPG6] for the supply of crushed rock aggregate. However, proposals for mineral development in these areas require the most rigorous examination as defined by Government Guidance. Additionally, proposals for mineral development adjacent to/or partially within AONBs will also require rigorous examination, to ensure that the development does not detract from the designated area. The quarrying of natural building stone from deposits within AONBs (principally the Cotswolds AONB), to meet a particular and unique requirement for such materials, is also recognised as a form of mineral development that may be permitted. Policy NE1 (Chapter 4) provides the context in which any such proposals would be considered.

Policy E2

Mineral development within Areas of Outstanding Natural Beauty will only be permitted in exceptional circumstances. Proposals will need to demonstrate that the following criteria can be met:

1. **there is an overriding national need for the mineral,**
2. **it is in the public interest,**
3. **it does not adversely affect the local economy,**
4. **there are no less environmentally constrained alternative sources of supply which could be developed at reasonable cost,**
5. **it can be shown that any adverse visual and landscape impacts of the development can be mitigated by the imposition of conditions and/or through planning obligations, and**
6. **that landscapes can be restored and, where possible, enhanced in the longer term.**

Nationally Important Sites of Nature Conservation

2.2.8 E3 In addition to AONBs, the list of primary constraints include a variety of nationally important areas, which have been given statutory status for the protection and enhancement of nature conservation. PPG9 advises that development which is likely to affect Sites of Special Scientific Interest [SSSI] and National Nature Reserves [NNR] should be subject to special scrutiny. With regards mineral development that may affect such designations the proposal must be subject to rigorous examination. The MPA will ensure that SSSIs and NNRs, which are designated in order to protect important wildlife habitats and species, are not damaged or destroyed by future mineral development. However, the MPA recognises that mineral development may provide opportunities to create new habitats and/or geological SSSIs through sensitive site restoration or during the operation of the site. Such opportunities must be identified at the earliest stages of proposals and will be encouraged by the MPA [See also policy E10 and Chapter 8].

Policy E3

Proposed mineral development, which detrimentally affects Sites of Special Scientific Interest and/or National Nature Reserves and their settings will only be permitted where other material factors are sufficient to override nature conservation considerations; the overriding national need for the mineral can be demonstrated; it is in the public interest; there are no alternative less environmentally constrained sites; and it can be shown that the effects can be adequately mitigated by the imposition of conditions and/or through the negotiation of planning obligations.

Nationally Important Archaeological Sites and the Historic Environment.

Scheduled Ancient Monuments

2.2.9 Scheduled Ancient Monuments [SAM] are considered to be a primary constraint to mineral development. Certain archaeological remains are considered rare, fragile and irreplaceable. The scope to preserve SAMs is greater than for other nationally important archaeological designations, requiring the applicant to seek consent from the Secretary of State for any works including development, which may affect them. There are over 400 SAMs in Gloucestershire. Planning Policy Guidance Note 15 "Planning and the Historic Environment" [PPG15] and Planning Policy Guidance Note 16 "Archaeology and Planning" [PPG16] identify their importance, and state that there should be a presumption against development which adversely impacts on internationally and nationally important archaeological remains. Such remains should be preserved *in situ*.

E4

Nationally Important Archaeological Sites and Settings

2.2.10 There are a considerable number of nationally important archaeological remains already designated in the County. A comprehensive county-wide archaeological survey has not be carried out and therefore there may be considerably more important sites which have not yet come to light. PPG16 advises where nationally important archaeological remains, whether they are scheduled or not, are affected by development there should be a presumption in favour of their physical preservation. The MPA will request an archaeological assessment of land affected by proposed mineral development where it has not previously benefited from archaeological survey, in order to ensure that sites of national significance and their settings are not damaged or destroyed.

E4

Policy E4

Proposed mineral development will not be permitted where it would involve significant alteration or cause damage to nationally important archaeological remains (whether scheduled or not) or would have a significant impact on the setting of visible remains; unless the effects can be adequately mitigated.

Listed Buildings and Conservation Areas

2.2.11 The Listed Buildings in Gloucestershire contribute greatly to the historic interest of the County. Once lost, Listed Buildings are irreplaceable. As an important component of Gloucestershire's built heritage, the MPA will not support mineral development, which compromises Listed Buildings or Conservation Areas. This approach accords with Government guidance. Legislation exists to protect Listed Buildings from demolition or insensitive and harmful development. The MPA will ensure the impact of proposed mineral development on Listed Buildings and Conservation Areas is fully considered at the proposals stage of development.

E5

Policy E5

Proposed mineral development, which is likely to harm the preservation of any Listed Building, their settings or any features of special architectural or historic interest which they possess, or the preservation or enhancement of the character or appearance of any Conservation Area will not be permitted unless the negative effects can be satisfactorily mitigated.

Other Nationally Important Sites of Historic Interest

2.2.12 English Heritage has compiled a non-statutory register of Historic Parks and Gardens and Battlefields. There are a number of important parks and gardens and two Battlefields listed in Gloucestershire. Although these parks and gardens currently have no statutory basis English Heritage has indicated that they are nationally significant. As such they contribute to the historic

E6

landscape and interest of the County and should be afforded the appropriate degree of protection from mineral development.

Policy E6

Proposals for mineral development which is likely to adversely affect Registered Historic Parks and Gardens and/or Battlefields will not be permitted unless the effects of the development can be satisfactorily mitigated.

Best and Most Versatile Agricultural Land

2.2.13 Best and most versatile agricultural land [Grade 1 - 3a] is defined as a national resource which will be a primary constraint to mineral development. Wherever possible mineral development which affects grade 3b – 5 agricultural land will be preferred. Protecting high-grade agricultural land is in keeping with Government guidance as stated in revised PPG7 (March 2001), and is in accordance with the principles of sustainable development. In circumstances where best and most versatile agricultural land needs to be developed and there is a choice between sites of different grades, land of the lowest grade should be used except where other sustainability considerations suggest otherwise. The MPA recognises that mineral development is not a permanent use of land and in the case of certain types of mineral development there may be scope to restore the land back to a similar agricultural grade. In circumstances where best and most versatile land is proposed to be developed, the MPA will take into consideration the quality of the land before development and the quality that would be likely to be achieved after restoration. The MPA will promote progressive restoration techniques in such instances. [See Chapter 8] In addition some forms of restoration, such as "wetland/wet grassland" do not preclude or limit future agricultural use of land should this be deemed necessary at some later date. Similarly, the MPA recognises that amenity or forestry may form an appropriate alternative afteruse to agriculture provided that restoration and aftercare enable the land to retain its long term potential as a high quality agricultural resource. Such uses may also enhance the local biodiversity of an area (see Policy E10).

E7

Policy E7

Proposals for mineral development, which result in the permanent loss of the best and most versatile agricultural land (grade 1 – 3a) will only be permitted in exceptional circumstances, if there is an overriding need for the development, and either sufficient land in lower grades is unavailable or available lower grade land has an environmental value which may be recognised by a statutory landscape, wildlife, historic or archaeological designation and outweighs the agricultural considerations.

Secondary Environmental Constraints

2.2.14 Secondary environmental constraints include land, which is designated as having local and/or regional significance. Such land will not normally have statutory protection and is therefore not afforded the degree of protection given to principal and primary environmental constraints. However, locally significant sites can be crucial to the overall integrity of the built, natural and historic environment and for this reason any proposal for mineral development in such an area will require careful consideration.

E8

2.2.15 In addition to maintaining the overall integrity of the local environment, the MPA considers it important to recognise that by careful planning, mineral development could also enhance the environment in the long term, by sensitive landscaping and reclamation. Therefore if mineral development proposals are successful in areas designated as secondary constraints the MPA will require, in accordance with the principles of sustainable development, compensatory measures

E8

which will maintain the quality of the local environment and, where appropriate, enhance the area in the long term.

2.2.16 ***The Natural Environment***

Special Landscape Areas are designated by Local Planning Authorities in their Local Plans to indicate an area which they consider to be a high quality landscape with considerable local importance, which requires special attention in terms of planning. Local Authorities can also designate Local Nature Reserves, which have statutory status. In Gloucestershire, Special Landscape Areas and Local Nature Reserves are identified in the relevant district-wide Local Plans.

2.2.17 **E8** The Gloucestershire Wildlife Trust designates and maintains records of the County's Key Wildlife Sites, which include non-statutory nature reserves. The Trust also identifies Wildlife Corridors. PPG9 provides guidance on wildlife corridors; they are landscape features that have a linear and continuous structure which helps provide linkages between various habitats in the countryside. Wildlife corridors are considered to be of major importance to the maintenance of the diversity of wild flora and fauna. Examples of wildlife corridors include rivers and their banks and traditional field boundary systems such as hedgerows. With regard to geological/geomorphological interest, the Gloucestershire RIGS Group identifies and maintains records of Regionally Important Geological/Geomorphological Sites (RIGS) in the County.

2.2.18 **E8** Where areas of nature conservation and geological/geomorphological interest are threatened by proposed mineral development, the MPA will be guided by the Cotswold Water Park Biodiversity Action Plan and the Local Biodiversity Action Plan for Gloucestershire (March 2000), which identifies the type of wildlife habitats, that require protection or are appropriate to create or recreate within Gloucestershire. [See Policy E10].

2.2.19 **E8** Ancient Semi Natural Woodland (ASNW) is an important countryside feature which forms a rich wildlife resource and has high nature conservation value. The term ASNW refers to all stands of woodland which do not obviously originate from planting. The Forestry Commission takes this to be areas of woodland which have remained under continuous tree cover since 1600 without substantial replanting with 'exotic' species such as conifers. In Gloucestershire, Ancient Semi Natural Woodland over 2 hectares in size is designated as a Key Wildlife Site by the Gloucestershire Wildlife Trust. However, ASNW that is less than 2 hectares still requires protection from development, in line with national forestry policy contained in the Strategy for Forestry in England 1999. Guidance in MPG1 also highlights the need to protect existing woodland. The MPA will take advice from the Forestry Commission and English Nature regarding the recognition and identification of such ASNW

The Historic Environment

2.2.20 **E8** There are a range of historic sites, landscapes and other archaeological sites, parks and gardens, which together contribute to the interest and cultural heritage of Gloucestershire. The MPA will carefully consider the loss or damage of such areas, which may result from future mineral development. In addition the MPA will favour mineral development which safeguards and/or enhances the overall historic environment of particular areas of the County.

2.2.21 **E8** Locally Important Archaeological sites and their settings are identified by the County Archaeological Officer (based at the County Council offices) and a Sites and Monuments Record maintained. Locally Important Parks and Gardens, which are features of the historic environment, are identified on a preliminary listing that is held by the County Council. The list is being updated by the Gloucestershire Gardens and Landscape Trust.

2.2.22 **E8** It may not always be possible to preserve all nationally and locally significant archaeological sites and their settings *in situ.* In the past, the extraction of minerals in Gloucestershire has resulted in the loss of archaeological remains, some of which have not been recorded, for example, sand and gravel extraction in the Upper Thames Valley. Where it is not possible to preserve remains *in situ* the MPA will ensure that adequate measures are taken to record

archaeological remains. PPG16 states that preservation by record may be an acceptable alternative but the preservation *in situ* of important remains is always to be preferred.

Policy E8

Proposals for minerals development which are likely to have a significant adverse effect on the following locally and regionally important areas must, where appropriate, make provision to safeguard or satisfactorily mitigate those impacts and, where possible, enhance their attributes in the long-term:

1. **Special Landscape Areas;**
2. **Local Nature Reserves;**
3. **Key Wildlife Sites;**
4. **Wildlife Corridors;**
5. **Regionally Important Geological/Geomorphological Sites (RIGS);**
6. **Ancient Semi Natural Woodland;**
7. **Locally Important Archaeological Sites and Settings, and other features of the historic environment;**
8. **Locally Important Parks & Gardens**

Green Belt

2.2.23 In Gloucestershire mineral working has been permitted on a limited scale in Green Belt land, in some cases in association with waste disposal. The most important attribute of the Green Belt is its openness. Government guidance in PPG2 'Green Belts' states that there is a general presumption against inappropriate development within the Green Belt. Such development would conflict with the purposes of including land in Green Belts. The most relevant purposes for the Green Belt designation in Gloucestershire are the prevention of the coalescence of Cheltenham and Gloucester, and Cheltenham and Bishops Cleeve, and the prevention of urban sprawl. With regard to mineral development, Government guidance states that it need not be inappropriate development in the Green Belt. However, the MPA would need to be satisfied that the development could be carried out to the highest possible environmental standards and could be restored to an appropriate after-use, preferably by employing progressive restoration techniques. Any mineral development in the Green Belt should also, where possible, contribute to the positive objectives for land use in the Green Belt as set out in PPG2. The most pertinent to mineral development in Gloucestershire are: securing nature conservation interest; retaining land in agricultural, forestry and other related uses; enhancing landscapes; and providing access to open countryside and recreational opportunities.

E9

Policy E9

Proposed mineral development will only be permitted within the Green Belt, where it is carried out to the highest environmental standards, is restored to a beneficial after-use and is in accordance with all other relevant policies of this Plan. In the case of minerals development which would be inappropriate in the Green Belt there will be a requirement to demonstrate that very special circumstances exist to justify it.

National, Regional and Local Biodiversity

2.2.24 The UK Biodiversity Action Plan was published in 1994 as the Government's response to the Biodiversity Convention. The UK Biodiversity Action Plan's Strategy is to prepare a national action plan for the protection and promotion of habitats and species of nature conservation concern. In order to implement this approach the Biodiversity Steering Group recommended that a Local Biodiversity Action Plan [LBAP] should be prepared. The South West Planning Conference have adopted a unique approach to implementing this strategy, by seeking to develop a regional approach [South West Biodiversity Partnership]. English Nature's Natural Areas initiative seeks to provide a land-use planning approach to national and local biodiversity,

E10

by identifying existing local environmental capital. The Cotswold Water Park Joint Committee as part of their overall strategy for the area have already adopted a LBAP.

2.2.25 It is recognised that mineral development in the long-term can provide opportunities to contribute to local biodiversity [See Chapter 8]. However, the impact of proposed mineral development on habitats and species which may be rare or vulnerable but are not formally designated must be considered. The protection and enhancement of biodiversity is a key principle of sustainable development, and therefore a main objective of this Plan. In determining applications for mineral development the MPA will be guided by the BAP targets in the Cotswold Water Park Biodiversity Action Plan and the Local Biodiversity Action Plan for Gloucestershire (March 2000). If proposals prejudice the delivery of these targets, or result in the loss of, or damage to, habitats and species then this will be a material consideration in determining the suitability of the proposed development. In addition, the Environmental Impact Assessment Circular 02/99, indicates that were appropriate local biodiversity action plans can assist in determining the sensitivity of a location when screening proposed development, which fall under schedule 2 of the Regulations, for the need for an EIA.

E10

Policy E10

In determining proposals for mineral development, the MPA will be guided by the contribution to local biodiversity and where appropriate will seek long-term overall enhancement to local biodiversity through restoration or by other means i.e. by the attachment of conditions or negotiation of planning obligations.

2.3 Protection of the Water Environment

2.3.1 In accordance with the principles of sustainable development the MPA will protect vulnerable natural resources such as the water environment from the adverse effects of mineral development. Mineral extraction can have a negative impact on the quality and quantity of water resources. The Environment Agency has emphasised the sensitive and complex nature of Gloucestershire's hydrology and indicates that the impact of any mineral development on the water environment should be assessed at the earliest possible stage. It is therefore appropriate to consider the protection of the water environment as a primary constraint to mineral development [See paragraph 2.2.5 – 2.2.6 above].

E11

2.3.2 Groundwater forms part of the natural water cycle that is present within underground strata. The Environment Agency seeks to preserve the quality and volume of groundwater. In accordance with the principles of sustainable development it is important to ensure that future mineral working does not affect the future availability of groundwater resources by materially restricting recharge, diverting flow, causing particulate or the introduction of chemical pollutants. Surface water regimes can also be adversely affected by mineral development by diverting flows, overloading watercourses and the introduction of chemical and suspended solids contaminants. The effects of mineral working on surface and groundwater need to be fully understood on any potential site and it is therefore necessary to require mineral operators to establish the depth and characteristics of the water-table and where appropriate to carry out hydrological monitoring to ensure that ground and surface water can be properly safeguarded. The level of investigation and monitoring will be guided by the Environment Agency. The Agency has produced "Policy and Practice for the Protection of Groundwater" which provides guidance to the MPA and minerals industry on this matter.

E11

Policy E11

Mineral development which is likely to have a significant negative quantitative and/or qualitative impact on the water environment, will not be permitted unless appropriate measures can be imposed to mitigate any harmful effects.

2.3.3 Rivers and floodplains are an important part of the water environment. Floodplains should be allowed to flood to fulfil their natural function. The Environment Agency recognises that mineral working in floodplain areas can potentially have beneficial or detrimental effects and therefore needs controlling carefully. PPG25 'Development and Flood Risk' requires local planning authorities to ensure that flood risk is properly taken into account in the planning of developments to reduce the risk of flooding and the damage which floods cause.

E12

Policy E12

Mineral development which increases the risk of flooding and has a material negative impact on the storage or flow capacity of the floodplain, will be permitted only where the risk or impact can be obviated.

2.3.4 River corridors make a significant contribution to the character of the countryside and its landscape value. In many instances river corridors are key sources of open space and also help to form links or 'green chains' which are important to the survival of wildlife.

E13

Policy E13

Where mineral working is to be permitted, an appropriate buffer zone must be retained between the mineral working and adjacent significant watercourses to preserve the integrity of the water corridor in terms of conservation and landscape. The size and landscape treatment of the buffer zone will depend on the characteristics of the area and details of the proposals.

2.4 Protection of Local Amenity, Public Access and Other Environmental Constraints, and Opportunities Arising from Mineral Development.

2.4.1 There are further categories of potential impacts from mineral development which need to be addressed but are not so easily categorised as the constraints identified previously, for example the protection of local environment and access to the countryside. There are various ways in which each impact on the environment may be minimised and opportunities provided to enhance and improve the local environment. Maximising the opportunities from mineral development is a key factor to ensure that any negative impacts on the local environment are in some way compensated.

Protection of Local Environment and Surrounding Land-Uses

2.4.2 Mineral development can have an adverse impact on surrounding sensitive land-uses [including residential use, schools, hospitals and certain business premises. However, please note that this list is not exclusive]. As an open form of development, mineral working can give rise to noise, dust and fumes, blast effects including ground and overpressure vibration and visual impacts. In keeping with the principles of sustainable development the MPA will consider fully the impact of future mineral development on the local community in order to protect and enhance the local environment and safeguard the amenity of surrounding settlements and neighbouring land-uses. Residential use is defined as settlements, which include hamlets, villages and towns. However, the MPA will also take into account the effects of mineral development on individual properties and small groups of dwellings, bearing in mind that minerals may only be worked where they occur.

E14

2.4.3 The delineation of a mineral development-free area [commonly known as a buffer zone] around sensitive land-uses close to areas of proposed future mineral development is a method of controlling negative impacts on local amenity. Policy E14 and E15 provides a mineral planning context for the delineation of buffer zones in all mineral resource areas of the County and aims to complement policies indicated in other aspects of the relevant development plan. The key objective of delineating buffer zones is to ensure, in line with policy guidance, that mineral development does not harm local communities. This policy must be viewed in conjunction with

E14

E15

policy SE4 that seeks to prevent sterilisation of mineral resources from other types of development.

2.4.4 Precise delineation of buffer zones is a matter which can only be determined at the application stage of development, when all appropriate information is available and the merits of the proposal may be judged against the policies of this Plan. The MPA will monitor the effectiveness of buffer zones and ensure the MLP includes up-to-date information on this matter when it is reviewed.

E14

Policy E14

In order to safeguard sensitive land-uses, proposed mineral development will not be permitted within an appropriately defined buffer zone. The following matters will be taken into account when delineating the buffer zone at the application stage of development:

1. **topography of the site and surrounding areas,**
2. **natural and manmade features, which may reduce the impact of development, for example landscape features, roads, railway lines etc.**
3. **the proximity of the proposed development to sensitive land-uses,**
4. **duration and direction of the proposed working, and**
5. **location of Plant and other ancillary development.**

Cotswold Water Park Settlement Protection Boundaries.

2.4.5 Settlement Protection Boundaries [SPB] have been previously identified for the Upper Thames Valley sand and gravel resource area in the non-statutory Upper Thames Policy Review [1993], due to the particular concentration and cumulative impact of mineral working. Boundaries were defined by natural features, wherever possible, and vary in extent depending on topography, landscape, the availability of natural features and the existence of, or consent for, mineral winning operations. The MPA adopts these SPBs for the purpose of the Plan to protect settlements from becoming 'islands' closely constrained by mineral working, both during the operational phase and following restoration. In assessing the adverse impact of development the MPA will have regard to any proposals for mitigation and restoration and will only allow mineral extraction to proceed after a rigorous examination of the proposals have shown them to be acceptable. The SPBs are delineated on Inset Maps in Chapter 10, and in Appendix F.

E15

Policy E15

Proposed mineral development, which adversely impacts on local communities and other sensitive land-uses, will not be permitted within Settlement Protection Boundaries identified in the Cotswold Water Park.

Economic Development

2.4.6 Mineral development may contribute to the viability and vitality of fragile rural economies. Such development can assist in maintaining and creating services and facilities in rural areas and helps support diversification of the rural economy. Planning Policy Guidance Note 7 “The Countryside - Environmental Quality and Economic and Social Development” [PPG7] states there is a tradition of quarrying in many rural areas and it can make a significant contribution to the local economy. However, such contribution should be balanced against the possible adverse environmental effects of mineral development. This is especially important in areas of Gloucestershire which are also dependant on tourism and recreation industries, which have developed on the basis of landscape and environmental quality of areas, for example, the Forest of Dean, Wye Valley AONB, Cotswold Water Park and Cotswolds AONB.

E16

2.4.7 PPG7 states that rural tourism makes a major and growing contribution to rural economic activity and the rural labour market. The development and well being of such an industry is dependent on the quality and character of the countryside as well as the range of facilities.

E16

Adverse impact on the environment arising from mineral development should be prevented to ensure that the character of the landscape is retained to support tourism strategies in the County.

2.4.8 The MPA recognises the Rural Development Area [RDA] status of the Forest of Dean and will take into account the factors, which led to the designation when considering applications for mineral development. Further, the extent to which proposed mineral development contributes to the aims of the Forest of Dean RDA Programme Strategy 1995 - 2000 will also be considered.

E16

2.4.9 The MPA will support proposals for mineral development, which contribute to the social and economic well being of the local community and are environmentally acceptable. The following factors will be taken into account:

E16

1. Number, type and duration of direct and indirect jobs which will be created or maintained as a result of this proposal, and
2. The opportunity to support skill development of locally employed people.

Policy E16

The contribution or impact that proposals for mineral development are likely to make to the social and economic well-being or otherwise of local communities will be a material consideration in assessing their suitability.

Public Access to the Countryside

2.4.10 Access to the countryside may be affected by mineral development. Public rights of way need to be protected and arrangements must be made for suitable diversions in the short term with reinstatement of the public right of way or a suitable replacement wherever possible in the longer term. Planning Policy Guidance Note 17 "Sports and Recreation" [PPG17] states access to public rights of way provide opportunities to enjoy the countryside.

E17

E18

2.4.11 Working of minerals and reclamation of worked out mineral sites may provide an opportunity to improve access to the countryside. Wherever possible the MPA will support initiatives within the County, which seek to improve access to open space and/or the countryside, for example:

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E18

- safeguarding and restoration of canal routes for recreational purposes [Thames and Severn, Gloucester and Hereford, and Gloucester and Sharpness Canal routes],
- improvements to the County's public right of way network, and
- the protection and creation of long distance paths i.e. National Trails.

2.4.12 Considerable stretches of three National Trails are located within Gloucestershire, the Offas Dyke Path, the Thames Path and the Cotswold Way. National Trails are long distance paths, established by the Countryside Agency as part of their statutory duty. Such paths contribute to the interest of Gloucestershire and allow for considerable public access to the countryside.

E17

Policy E17

Mineral development, which affects defined public rights of way, will only be permitted if provision is made for an appropriate diversion unless, in exceptional circumstances, the Mineral Planning Authority considers that such a diversion is not required. Wherever possible long-term reinstatement or suitable replacement of public rights of way will be secured. In addition, the Mineral Planning Authority will not permit proposals, which are likely to materially affect National Trails.

Policy E18

Where appropriate, proposals for mineral development should consider the scope to provide opportunities for:

1. **the creation of new public rights of way and/or open space, or**
2. **the improvement of public access, or**
3. **the reconstruction, restoration and/or safeguarding of protected lines of affected canals.**

2.5 Environmental Impact Assessments

2.5.1 Environmental Impact Assessment (EIA) provides a systematic method of assessing the environmental implications of developments, including proposals for minerals development, that are likely to have significant effects. The Town and Country Planning (Environmental Impact Assessment) Regulations 1999 consolidates the regulations which implement the European Directive on EIA

2.5.2 The MPA will require an environmental impact assessment (EIA) of proposals for mineral development in accordance with the Regulations. An EIA will therefore be required for development which falls within Schedule 1 of the Regulations. An EIA will only be required for development that falls within Schedule 2 where the development is likely to give rise to significant environmental effects. Refer to Appendix J for a more detailed explanation of the scope for an EIA on proposed mineral development.

2.6 Transport

2.6.1 Transport is a major issue when considering proposals for mineral development. Mineral Planning Guidance Note 1 "General Considerations and the Development Plan System" [MPG1] states mineral development can generate significant amounts of road traffic and this may have a negative impact on the amenity of the local community. Principles of sustainable development seek to reduce the number of journeys made by road, and encourage greater use of alternative modes of transport. Transport issues are an important aspect of the UK Sustainable Development Strategy 1995. The Strategy recognises that current transport trends can not be sustained and have unacceptable consequences for the economy as well as the environment.

E19

2.6.2 ***Road***

E19

Nationally, most minerals are delivered by road and all of those extracted in Gloucestershire are presently transported by this mode. For the most part the distribution of aggregate minerals is local and diverse. The use of roads as a predominant mode of transporting minerals will tend to limit the market area for economic reasons due to the bulky nature of minerals. However this will be dependent to some extent on the location of other sources of supply to any given quarry. For this reason importation of significant quantities of minerals into Gloucestershire is also made by road.

2.6.3 ***Rail***

E19

Rail is generally used for the transportation of aggregates over longer distances. There are environmental benefits for the use of rail to transport minerals. However, these benefits are only accrued between the production point and the receiving depot, the environmental impact is actually transferred to the export areas. There may also be environmental disadvantages encountered in the production areas. A rail link to a quarry demands the availability of a high level of reserves and production capacity. The importation of minerals into the County by rail is currently negligible.

2.6.4 The local nature and dispersed pattern of markets for Gloucestershire's minerals suggests that modes of transport other than road will be unlikely over the Plan period and that the scope for rail movement is very limited. However, the movement of minerals by rail will be encouraged wherever possible.

E19

2.6.5 ***Water***

E19

The majority of canal routes in Gloucestershire are relics of the 18th and 19th Century. They are not well placed to serve the minerals industry and are unlikely to have any potential for

commercial transportation, as the network is inadequate. The Gloucester and Sharpness Canal is the exception, in terms of accommodating commercial water borne traffic, but like the rail network is not coincident with sites of mineral extraction. It may however have some limited potential for receiving minerals extracted from outside of Gloucestershire, such as marine dredged sands and gravels. Additionally, Lydney Docks and the Severn Estuary may be suitable for the importation and exportation of minerals.

2.6.6 Although alternative modes of mineral transportation in Gloucestershire may be limited, Government guidance contained in Planning Policy Guidance Note 13 "Transport" [PPG13] and Mineral Planning Guidance Note 6 "Guidelines for Aggregates Provision in England" [MPG6] advises that more freight should be moved by rail or water rather than by road, wherever it can be a viable alternative. In accordance with the principles of sustainable development, Policy E18 [see below] has been developed with this in mind and provides a framework for encouraging alternative modes of future mineral transportation to that of road, particularly if this was encouraged by the introduction of fiscal policies levied by Central Government.

E19

2.6.7 As it appears that the road movement of minerals is likely to dominate during this Plan period, the environmental impact and safety issues of road use need to be addressed. The main aspects of transporting minerals by road are the impacts:

E19

E20

1. within the quarry itself;
2. on the local road network to the quarry;
3. on the wider, strategic road network.

2.6.8 In order to ensure that the potential harm arising from mineral development is fully considered and to encourage the investigation of innovative modes of transport, the Mineral Planning Authority will require operators to submit a detailed transport appraisal for proposed operations and such appraisals should include a full examination of the alternatives to road movement. If road movement is the desired method to distribute minerals, then there should be an onus on the operator to prove that disruption to the local environment and communities can be minimised. Particular consideration should be given to routes used, the number of properties affected and the overall suitability of the highway network.

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The detailed transport appraisal should also consider the following:

1. the mode of transportation within the minerals site [including conveyors and pipelines where appropriate];
2. the mode of transportation from the minerals site to the market;
3. scope for and environmental implications of reinstating rail head or restoring canal lines or use of rivers, wherever appropriate;
4. the suitability of the local road network;
5. the suitability of the wider highway network for mineral transportation;
6. the likely impact of mineral transportation on the environment and community;
7. where the proposal is for an extension to or an increase in production at an existing site, an analysis of the cumulative impact of the mineral transportation; and
8. scope and measures to mitigate the impact of traffic generated by the proposal.

Policy E19

Proposed mineral development will not be permitted where the method of transporting minerals will give rise to an unacceptable impact on the local environment. Mineral operators must demonstrate, by a detailed transport appraisal, that the safest and least environmentally damaging methods of transporting minerals from extraction/production sites to markets, that are practically achievable, are used.

Policy E20

Mineral development will only be permitted when the provision for vehicle movement within the site, the access to the site, and the condition of the local highway network are such that the traffic movements likely to be generated by the development would not result in unacceptable impact on highway safety, the effective operation of the road network, residential amenity or the local environment. In assessing the likely impact of traffic movements, account will be taken of any highway improvements, traffic management or other mitigating measures which may be provided in association with the development.

2.6.9 Where highways issues arise that might prejudice the proposals for mineral development the MPA will consider entering into planning obligations with mineral operators for the management of traffic on the highways network, including maintenance and road improvements. The County Council's Supplementary Planning Guidance "Minerals Operators' Contributions to Highways improvement" (approved by the Environment Committee 1993) which guides this issue, is likely to require revision. The consideration to be given to transport and highway matters are detailed in the Development Control Criteria [Chapter 9].

DC6

2.6.10 In the interest of sustainable development the MPA will address the issue of bringing closer together the future location of minerals resources and their markets in order to reduce the impact of mineral related traffic. The MPA recognises that this may be difficult for some sources of supply, as minerals can only be worked where they occur. The MPA will work with the minerals industry to minimise the distance between the future location of mineral resources and markets.

Railhead and Wharves

2.6.11 In the interest of securing future sustainable transportation of minerals, in accordance with Government guidance the MPA will protect existing railhead and wharfage facilities and identify areas, which may have potential to accommodate new facilities. As indicated above there is currently limited scope to encourage alternative modes of transportation of minerals. However, the MPA in the long-term will require the consideration of other more environmentally acceptable modes of transport, as opposed to movement by road. In order to achieve this strategy, safeguarding existing railhead and wharfage and the creation of new facilities is an objective of this plan. The MPA will work in partnership with district authorities and relevant agencies to ensure that suitable railhead and wharves are safeguarded.

E21

Policy E21

Existing and disused railhead and wharves will be safeguarded where they have potential for the exportation and importation of minerals and secondary/recycled aggregates.

Chapter 3
AGGREGATE MINERALS SUPPLY

Sustainable Development Objectives:

- *Control of minerals supply in order to meet society's needs.*

SUMMARY OF POLICIES		
Policy No.	**Subject**	**Structure Plan Policies [See Appendix B]**
A1	County Contribution to the local apportionment of the Regional Guidelines	M7
A2	Landbanks	M7
A3	Future Aggregates Mineral Development within Preferred Areas and Areas of Search	M1 / M7
A4	Future Aggregates Mineral Development outside Preferred Areas and Areas of Search	M1 / M7
A5	Areas of Future Crushed Rock Aggregates Mineral Development – Forest of Dean	M7
A6	Areas of Future Crushed Rock Aggregates Mineral Development – Cotswold	M7
A7	Areas of Future Sand and Gravel Aggregates minerals Development – Upper Thames Valley	M7 / M8

3.1 Introduction

3.1.1 Gloucestershire is an important source of mineral supply, principally for aggregate use in the construction industry. Gloucestershire's aggregate minerals comprise sand/gravel and limestone [used as crushed rock].

3.2 Background and National Policy

3.2.1 Government guidance for aggregate provision in England is contained in Minerals Planning Guidance Note 6 "Guidelines for Aggregate Provision in England" [MPG6]. These guidelines provide advice to both Mineral Planning Authorities [MPAs] and the minerals industry on how to ensure an adequate and steady supply of construction material at the best balance of social, environmental and economic cost whilst ensuring mineral extraction is consistent with the principles of sustainable development.

3.2.2 The guidance also outlines that there should be a gradual change from the present supply approach which relies on land-won sources, to one which incorporates an increase in the use of alternative sources of materials such as marine-dredged aggregates, secondary and recycled material and coastal super-quarries. However the availability of these alternative sources may well be restricted due to environmental, technical or economic reasons particularly in the early part of the period to which MPG6 applies.

3.2.3 So that options for future supply are not foreclosed by land won provision, the Government has concluded that provision for primary aggregates should be made now for the period to 2006

only. The Government has concluded that for the period 1992 - 2006 the total supply of aggregates for England should be 4,280 million tonnes [mt] of which 3,110 mt [73%] should be supplied from land won provision. MPAs are required to make provision for 1,200 mt of sand and gravel and 1,900 mt of crushed rock. The Government has made the assumption that approximately 1,165mt of aggregates will be supplied from sources other than land won production such as secondary materials.

3.3 Primary Aggregates Provision in Gloucestershire — General

3.3.1 A1 The Regional Guidelines annexed to MPG6 identifies the forecast demand broken down for each planning region. The Guidelines identify that approximately 715 mt of aggregates will be required from the Southwest Region. MPAs in the Region are requested to make provision in their Minerals Local Plans [MLP] for 105 mt of sand and gravel and 610 mt of crushed Rock over the period 1992 - 2006. These figures were apportioned by the South West Regional Aggregate Working Party [SWRAWP] between the constituent MPAs of the Region to provide a context of supply for the preparation of MLPs.

3.3.2 A1 This sub-regional [or county] apportionment has resulted in a requirement for Gloucestershire to contribute 19.4 mt of sand and gravel and 47.6 mt of crushed rock in the period 1992 - 2006. The figure for crushed rock can be further sub-divided to 33.3 mt for Carboniferous Limestone from the Forest of Dean and 14.3 mt for Jurassic Limestone extracted from the Cotswolds. It should be noted that all crushed rock in Gloucestershire is provided from limestone resources. The limestone resources of Gloucestershire are divided into two areas, separated by geological time and are physiographically distinct. The older harder more durable resources are the Carboniferous limestones of the Forest of Dean. The younger more variable resources are the Jurassic limestones of the Cotswolds. Each resource area provides aggregate material for general construction purposes but only the Carboniferous limestones can be used in high specification concrete and road based products (such as asphalt or coated stone). The Cotswold stones cannot be used for some of these purposes, however significant amounts are used in the manufacture of reconstructed blocks and bricks. The location of the two limestone resource areas on opposite sides of the County means that in addition to the differences in end uses they tend to serve different although sometimes overlapping markets. The local apportionment is therefore subdivided on a 70:30 basis, which represents past, present and the likely future supply of these two resources. If the pattern of future supply changes the subdivision may be reconsidered during the periodic reviews of the Plan.

3.3.3 A1 A2 In addition to the requirement to ensure an adequate supply of aggregates, there is a requirement to maintain a landbank of reserves. A landbank is a stock of planning permissions for mineral development. MPG 6 identifies that landbanks in the Southwest should reflect the sub-regional apportionment of the Guidelines figure. In the case of sand and gravel a landbank should be maintained for at least seven years. MPG6 states that a longer period may be appropriate for crushed rock. Although no specific figure is given for crushed rock, it is generally taken as a longer period than for sand and gravel due to the longer lead in times involved in obtaining planning permission and bringing a site into full production. The landbank requirement will be the resources which are identified to ensure that the landbank can be maintained at the requisite level [i.e. 7 years for sand and gravel and for crushed rock] throughout and at the end of the Plan period.

3.3.4 A2 The landbank requirement for the MLP is determined on the basis of the annual expression of the local [County] apportionment as identified in Table 1 below:

Table 1: Provision of primary [land won] aggregates in Gloucestershire [million tonnes] for the period 1992 - 2006.

Resource	1992 -2006 million tonnes	Annual Apportionment million tonnes
Sand & Gravel	19.4	1.29
Crushed Rock [Limestone]	47.6	3.17
Crushed Rock [Limestone] Subdivision		
Forest of Dean	33.3	2.22
Cotswold	14.3	0.95

3.3.5 Structure Plan Second Review, identifies the strategic basis for the supply and control of aggregates, taking account of local, regional and national needs together with the maintenance of an appropriate landbank. Policies A1 and A2 are the detailed reflection of that broad strategic policy approach.

A1

A2

3.3.6 At 1/1/97, there were 36.7 mt of crushed rock reserves, or landbank, in Gloucestershire; this figure takes into account relevant reserves at natural building stone quarries where aggregates are also produced. [The separate landbanks for the Forest of Dean limestones is 23.5 mt and for the Cotswold limestones is 13.2mt]. The actual landbank period is therefore equivalent to $11^{1}/_{2}$ years on the basis of the annual expression of the local apportionment of the Regional Guidelines [or 10.6 years for the Forest of Dean Limestone and 13.9 years for Cotswold Limestone]. Similarly there are 12.8mt of sand and gravel reserves, which is equivalent to a landbank period of 9.9 years.

A2

3.3.7 Table 2 identifies the aggregate requirements to 2006 based on maintaining a 7 year landbank for crushed rock and for sand and gravel. These landbank periods reflect the need to maintain adequate supplies of aggregates whilst safeguarding the environmental assets and resources of Gloucestershire. It is a decision for the MPA, taking all circumstances into account to consider an appropriate landbank for crushed rock. The Plan requirements are based on the annual expression of the local apportionment spread over the period from base date 1997 to end date 2006. The requirements for the period 1992 – 1996 have not been included, as aggregate requirements for that period have been met from actual production during those years. The Plan base date therefore begins at 1997. An indication of actual production for that period is indicated in Appendix E. In the years 1992 –1996 actual production was lower than the average annual basis of the local apportionment as identified in Policy A1, leaving larger reserves than predicted, resulting in a corresponding reduction in the amount of additional reserves which need to be found. Policy A1 is drafted so that the provision of the Regional Guidelines of MPG 6 can be met for the Plan period. Any reserve update and implications for reserves required for the remainder of the Plan period are indicated in a revision of Table 2 contained in Appendix E.

Table 2: Landbank Requirement of the Minerals Local Plan for Gloucestershire

A	B	C	D	E	F
Resource/ Area	**Local Apportionment**	**7 year Landbank – Crushed rock 7 years Landbank - Sand & Gravel at 2006**	**Local Apportionment & Landbank Requirement 1997 - 2006 (Column B+C)**	**Existing Reserves of Aggregates at 31.12.96**	**Additional Reserves Required 1997 - 2006 (Column D-E)**
Crushed Rock Forest of Dean	**22.2**	**15.5**	**37.7**	**23.5**	**14.2**
Crushed Rock Cotswolds	**9.5**	**6.7**	**16.2**	**13.2**	**3.0**
Crushed Rock Total	**31.7**	**22.2**	**53.9**	**36.7**	**17.2**
Sand & Gravel Upper Thames Valley	**12.9**	**9.0**	**21.9**	**12.8**	**9.1**

3.3.8 Policies A1 and A2 will be primarily implemented in the MLP through the sufficient allocation of delineated areas for future mineral working, for any additional requirements not met through existing reserves. The locational options to meet the landbank requirement for crushed rock and sand and gravel have been identified on this basis. These are discussed later in this Chapter.

A1
A2

Policy A1

Subject to the assessment of the environmental, social and economic impact of mineral working, the Mineral Planning Authority will endeavour to maintain a landbank that reflects the local apportionment of the Regional Guidelines.* The local apportionment during the Plan period is represented on an average annual basis as a provision of:

1. **3.17 mt per annum of Crushed Rock [limestone]**
2. **1.29 mt per annum of Sand and Gravel**

Policy A2

The Mineral Planning Authority will endeavour to maintain a landbank of reserves for the winning and working of aggregate minerals throughout and at the end of the Plan period in accordance with National and Regional Guidance. This landbank will be:

1. **at least 7 years for Crushed Rock [limestone]; and**
2. **at least 7 years for Sand and Gravel.**

3.4 Future Areas for Aggregates Mineral Development

Background

3.4.1 A key feature in meeting the need for aggregates is the delineation of future areas for mineral development, where appropriate to supplement existing reserves. Government Guidance identify three distinct methods for the delineation of minerals:

A3
A4

1. Specific Sites,
2. Preferred Areas, and
3. Areas of Search. *1

Specific Sites and Preferred Areas provide a good degree of certainty that mineral development will take place, while Areas of Search are likely to be delineated over broader areas. The key element contained in Government Guidance is that areas identified in the MLP can be translated into workable reserves. The MPA is required to make reasonable efforts to satisfy themselves that this is the case. Where this cannot be resolved satisfactorily, MLPs need to be sufficiently flexible to allow for uncertainty. Areas of Search can offer a prudent approach to balancing the needs of industry against local concern. However, it is inappropriate for a MLP to make provision for the early part of the MLP by Areas of Search alone, and that some degree of certainty is required through specific sites or Preferred Areas.

3.4.2 Future provision for crushed rock and sand and gravel aggregates is defined in this Plan primarily through the delineation of 'Preferred Areas'; areas where planning permissions might reasonably be anticipated by industry. There is a high degree of certainty of viable and accessible mineral deposits in these areas and each location represents locations which are considered to have the least overall constraint [environmental and other] to mineral development. Directing the industry towards these areas does not mean, however, that planning permission for the extraction of the mineral will be automatically granted, but they are areas where the least objection to mineral development is likely to arise and where applications for

A3
A4

* Annex A of MPG 6 (April 1994)

*1 These terms are defined at the rear of Appendix C1

planning permission have the best chance of success. There are issues which need to be satisfactorily addressed before mineral development can take place in the various Preferred Areas and these major issues are identified in the development brief for each site attached in Inset Maps and Proposals of Chapter 10 of the Plan.

3.4.3 Mineral Planning Guidance Note 1 "General Considerations and the Development Plan System" [MPG1] and MPG6 advise that it may be preferable to allow extensions to existing mineral workings rather than to allow new development on greenfield sites. MPG6 also advises this might not be appropriate for all existing mineral workings and it might do less environmental harm in some cases to open a new mineral working than grant an extension to existing workings. Specific Sites or Preferred Area provision can be made by either extension to existing development or through new greenfield sites.

A3
A4

3.4.4 Policy A3 provides the general approach for the consideration of proposals for mineral development within the Preferred Areas. This Policy does not prejudice any other Policies or Proposals of the Plan. In particular proposals must be in accordance with the environmental policies of the Plan contained in Chapter 2, including proposals for processing and transportation of the mineral which are acceptable to the MPA and the Development Control Criteria in Chapter 9. Proposals should also be in accordance with the reclamation Policies of the Plan.

A3
A4

3.4.5 Proposals for aggregates mineral development outside of the Preferred Areas will not be permitted unless exceptional circumstances prevail. MPG1 advises that MPAs should continue to consider carefully applications outside areas identified in the Plan. It is possible that on the basis of new information becoming available about mineral resources outside areas identified in the Plan, that an operator could bring forward an application for a site which might be significantly more acceptable overall than a site identified in the Plan. Although in practise these circumstances should be rare, any such applications should be determined in light of the development control and other relevant policies of the Plan. Policy A4 identifies the general circumstances where such proposals will need to be justified. Part A of Policy A4 provides the context for the consideration of proposals which are for the working of minerals of a specification which are not identified in the Plan, or will meet a forecast shortfall, which in either case would be required to maintain an appropriate contribution to local, regional and national needs. Following the appraisal undertaken by the MPA as outlined in paragraph 3.5.1 it is unlikely that any such sites outside the Preferred Areas in this Plan would be significantly more acceptable overall. This is particularly pertinent in the Forest of Dean resource area, where paragraphs 3.5.6 – 3.5.9 outline that although there is a potential shortfall of the resource identified in this Plan, it is unlikely that there are any suitable sites which can fully meet identified resource requirements.

A4

3.4.6 This policy also recognises that there may be exceptions where materials of a particular requirement may not be found within the Preferred Areas. However in such circumstances an operator must be able to justify that there are no other sources of supply and that the proposal will contribute to maintaining the appropriate contribution to local, regional and national need. It should be borne in mind that the areas delineated in this plan meet fully the requirements for sand and gravel and the Cotswold limestone resource areas.

A4

3.4.7 Part B of Policy A4 relates to circumstances where mineral working for aggregates at existing sites not delineated in the Plan may be justified. Policy A4 does not prejudice any other Policies or Proposals of the Plan. Indeed, in the case of proposals submitted under Policy A4 parts A or B, they will need to be in accordance with all other policies of the Plan. These may also include sites, which contribute to the locational objectives as outlined in paragraph 2.6.10 of the Plan. The MPA will consider favourably proposals for working minerals, as well as those considered under paragraph 2.6.10, which assist in the development of existing or proposed mineral areas in adjacent Counties provided that such proposals comply with the Policies of this Plan and in particular with the criteria in Policy A4. In this context the MPA will also be prepared to consider applications in respect of development in neighbouring Counties which may not already exist but is proposed there and is likely to be granted permission by that authority. But

in those circumstances a permission will not be granted until there exists a full permission in the adjacent County.

Policy A3

Proposed aggregate mineral working within the Preferred Areas defined in this Plan will be permitted only where:

1. **they contribute to maintaining the County's appropriate contribution to local, regional and national aggregate needs including the maintenance of a landbank in accordance with policy A2,**

2. **and the application satisfactorily fulfils the requirements of the Proposals for that Preferred Area as identified with the Inset Maps.**

3. **and they are in accordance with all other policies of this plan, in particular policies relating to Environment, Reclamation and Development Control.**

Policy A4

Proposed aggregate mineral working outside the Preferred Areas defined in this Plan, will only be permitted where they are in accordance with and will secure the effective implementation of the objectives and other policies of the Plan by providing for either:

A. The provision of aggregates not found in the Preferred Areas defined in this Plan where it can be demonstrated that the mineral is of a specification, or will meet a forecast shortfall, which is required to maintain the County's appropriate contribution to local, regional and national need, and where it is demonstrated that such provision would be significantly more acceptable overall than a site or sites in a Preferred Area.

Or,

B. In relation to existing mineral development:

1. **the enhancement of the surrounding environment or amenity, and/or;**

2. **an improvement or enhancement of reclamation and after-use opportunities, and/or;**

3. **the completion of working of a residual area of mineral resource that would be impractical to exploit in any other way.**

3.5 The Approach to the Delineation of Future Areas of Limestone Aggregate in Gloucestershire

General

3.5.1 Initially a geological/technical appraisal of the Carboniferous and Jurassic limestones of the respective areas was carried out and nine broad geological areas were identified in relation to major strategic designations. These were termed "Areas of Investigation" on the basis that they were the first stage in the process of future mineral resource appraisal. It was recognised that they contained potentially much more limestone than will be required in the period up to 2006. Within this context profiles of each area were compiled to provide detailed information on a range of technical, environmental and land-use considerations. The result of this work set against the advice contained in MPG1 and MPG6 provides the rationale behind the potentially workable limestone resource areas delineated in this Plan.

A5
A6

Limestone - The Forest of Dean

3.5.2 A5 Within the Carboniferous Limestone Group of the Forest of Dean there are two limestone horizons having substantial potential as an aggregate mineral resource. The first and least favoured resource lies within a shale succession known as the Lower Limestone Shales. Here limestones are mixed with layers of shale, but it is only at certain locations that the former comprise the greater part of the formation and are of potential economic interest; for example, in the Clearwell area where the limestone may reach up to 18 metres in thickness. Current quarrying operations in this area have worked these horizons to a depth of 12 metres and there maybe some scope to work deeper to realise additional limestone reserves. The outcrop of the Lower Limestone Shales, containing limestone of possible economic interest, is to be found over a plateau-like area extending south from Clearwell to Hewelsfield and Bream. Continued working of this resource will be dependant on detailed evaluation of the relative quantities of limestone and shale, and the quality of the limestone itself. Potentially workable resources have been located adjacent to Stowe Hill and Clearwell Quarry.

3.5.3 A5 The more significant limestone resource in the Forest of Dean is the Lower Dolomite, which lies above the Lower Limestone Shales and outcrops around the periphery of the Forest of Dean Coalfield and also extends southwards down the east flank of the Wye Valley. It is a massive fine to medium grained dolomitic limestone or dolomite up to 120 metres in thickness with sufficient uniformity, quality and extent to be of value for modern aggregate production. Nevertheless, its usefulness at any location for high quality aggregate use needs to be determined by detailed investigation. Weathering and percolating solutions over geological time may have altered the limestone's texture and porosity, thereby reducing its strength and durability. In addition the extent of the Lower Dolomite outcrop and therefore its attractiveness for quarrying, is also dependent on its angle of slope. Extensive outcrops are to be found on the western flank of the Forest of Dean Coalfield west of Coleford where the slope of the beds is shallow; elsewhere the Lower Dolomite slopes much more steeply and consequently presents a narrow outcrop.

3.5.4 A5 Currently reserves of Lower Dolomite are to be found in four quarries; two of which are active [Drybrook and Stowfield] and a further two are inactive [Bream and Roger's] but contain potentially workable reserves. A third inactive quarry, Tintern, no longer has an extant permission following time expiry in 2001 with no subsequent renewal. Approximately three quarters of these reserves lie within the Wye Valley AONB at two sites, including at Stowfield the County's largest quarry.

3.5.5 A5 The geology of the occurrence of Lower Dolomite is known from geological maps but there is no detailed resource analysis available, other than that related to existing quarries and their extension, and to limited areas investigated by interested individuals.

Future Provision in the Forest of Dean

3.5.6 A5 Table 2 [page 30] demonstrates that an additional provision of 14.2 mt of limestone will be required in the period to 2006, with a Plan base date of 1997. There is resource potential for the working of additional land adjacent to Drybrook, Stowe Hill/Clearwell and Stowfield Quarries. Resource availability at these sites could theoretically meet this requirement. The resource potential identified in this Plan at the three sites totals around 22.7 million tonnes (mt) of which 8 mt may be found at Stowe Hill/Clearwell, 4.5 mt at Drybrook and 10.2 mt at Stowfield. In addition, in the latter site further resources may exist in depth in the northern part of Stowfield Quarry and the Preferred Area. However, because of the potential production capacities of these quarries, in two cases limited by planning conditions (800,000tpa at Stowfield and 400,000tpa at Stowe Hill/ Clearwell; Drybrook being limited by its plant capacity to 350,000tpa), they fail to secure the forecast requirement in terms of capacity and continuity of supply. Recent planning and operational decisions such as at Roger's Quarry have also affected the overall potential production capacity in the Forest of Dean. This causes difficulty as both MPG1 and MPG6 emphasise the importance of ensuring continuity of production for mineral extraction through policies contained in the MLP.

3.5.7 A5 In other words, even with the 14.2mt requirement being distributed between the three sites, not all of the resources would become available for mineral working in the Plan period because of limitations in potential production capacity. This is restricted by planning condition at Stowe Hill/Clearwell Quarries and at Stowfield. It must be emphasised that the resources identified at the three sites in the Forest of Dean cannot be realistically worked other than as extensions to the existing mineral workings. The existing reserves at these sites will provide a continuity of working for the immediate future under existing production limits. In the case of Stowfield Quarry existing reserves are sufficient for the majority of the Plan period taking account of the current production limit of 800,000 tonnes per annum. Therefore the allocation of any additional resources at Stowfield will only contribute to the requirements towards the end of this Plan period taking into account the current production limit. However, if an increase in production is realised this would mean that additional resources would be required at an earlier stage. Existing reserves are likely to be exhausted at Stowe Hill/Clearwell in around 4-5 years at current production limits and resources identified at this site could make a significant contribution to the requirements of the Plan. The scope for any increase in production at Drybrook Quarry is limited by future resource availability, however some of the identified resource of 4.5 mt in the Preferred Area would contribute towards aggregate requirements within the Plan period. The delineation of resources at these three sites will make a significant contribution to maintaining a continuity of aggregate supply in this Plan period.

3.5.8 A5 The resources delineated at these three sites identified in the Plan can only be practically worked as extensions to the existing quarries with which they are associated as detailed above. Indeed the processing of aggregates is only envisaged through the existing or proposed plant at each site. As the estimated production potential at these three existing quarries combined, is currently limited to around 1.55mt per annum (potentially 1.95 million tonnes per annum (mtpa) subject to a minded approval for a variation of condition in output from 0.8 mt pa to 1.2 mt pa at Stowfield Quarry) the requirements of the Plan in terms of maintaining a continuity of production and a 7-year landbank at the end of the Plan period in 2006 for the post-Plan period would be 30.7 mt. That is a production capacity of 1.55 mt pa during the first 6 years of the Plan period, 1.95 mt pa over the remaining Plan period to 2006 and for the 7-year landbank provision in the post-Plan period. The Plan presumes that new reserves at or around these sites will come forward to maintain production at the capacity outlined above, therefore if existing reserves at the these sites are 23.5 mt, a further 7.2 mt of reserves would be required to come on stream (i.e. 30.7 mt– 23.5 mt). Unless there is any further change in estimated production potential the resources identified in the Plan will contribute 7.2 mt. As the requirements of the Plan to 2006 and a landbank of 7 years at the end of the Plan period (or post-Plan period), are 14.2 mt as demonstrated in Table 2 above, this leaves a potential shortfall of 7 mt during the Plan and post-Plan period. This shortfall relates mainly to the early part of the Plan period, where production capacity is lower. Bearing in mind that recent annual sales have been below annual apportionment and the combined production limits of the existing quarries, the potential shortfall in supply if needed, could be met by a relatively modest increase in production capacity at one or a combination of the existing quarries. However any proposal to increase production capacity at an existing quarry would need to be treated on its merits against all other policies and proposals in the Plan. The provision of a greenfield site would be an unrealistic and inappropriate way of meeting the shortfall given the current potential production capacity and the timeframe of the Plan.

3.5.9 A5 The Plan identifies resource areas adjoining three quarries, which are capable of providing 7.2 mt as described above. It does not identify any preferred locations to meet the identified potential 7 mt shortfall by a replacement greenfield site. The approach referred to in paragraph 3.5.1 examined the main areas of geological availability in the Forest of Dean. Broad "Areas of Investigation" were identified at Hewelsfield, St. Briavels and Coleford. Limestone resources are geologically present at these sites. However, it is considered that the combination of environmental unacceptability and impact on the local economy, together with uncertainty of resource availability at St Briavels and Coleford, militate against the delineation of any of these areas in this Plan.

3.5.10 A5 MPG1 and MPG6 advise that any potential shortfall in supply could be met by the delineation of "Areas of Search". The key aspect of an "Area of Search" is that it should contain some

areas, which will be appropriate for mineral development. For economic and environmental reasons the three broad "Areas of Investigation" contain no areas where it is likely that mineral extraction would be appropriate, taking account of all information available to the MPA at the present time. Taking account of all factors this Plan goes forward with a potential shortfall in practically being able to meet future resource requirements.

3.5.11 Extensions will be required in order to maintain a continuity of production for the three currently operational sites. Detailed working proposals and considerations for these sites are identified in the Inset Maps and Proposals contained in Chapter 10.

A5

Policy A5

Additional land for aggregates mineral working in the Forest of Dean to meet the future Crushed Rock requirements of this Plan are identified as Preferred Areas at:

East of Stowe Hill/Clearwell Quarry;
West of Drybrook Quarry; and
North and East of Stowfield Quarry.

Limestone - The Cotswolds

3.5.12 The greatest extent of limestone resource in the County is the Cotswolds, comprising beds belonging to the Inferior and Great Oolite Limestone Groups. Currently there are 23 quarries in the Cotswolds where reserves of limestone remain to be worked; of these 14 were active in 1995. All are within the Cotswolds AONB and many are principally natural building stone quarries. Much of the stone extracted in the Cotswolds is used as an aggregate, although up to 50,000 tonnes of natural building stone products (including walling stone, building stone, masonry stone and tilestone) are sold annually. The policy framework for natural building stone is discussed elsewhere in the Plan.

A6

3.5.13 Although the geological occurrence of limestone in the Cotswolds is reasonably well understood, no technical resource analysis exists to identify the best source of future aggregate or building stone reserves. Certain locally identifiable beds may be good sources of stone, by virtue of experience and historical usage. This experience can be sufficient to identify useful additional limestone resources adjoining an existing quarry. However, at a more general level the variability of individual limestone beds mitigates against wider resource identification.

A6

Future Provision of Cotswolds Limestone Aggregates

3.5.14 Table 2 demonstrates that an additional provision of 3 mt of Cotswold limestone processed as aggregate will be required in the period to 2006, with a Plan base date of 1997. Currently the bulk of limestone aggregates are produced from three quarries in the Cotswolds. In addition Cornbrash is worked concurrently with the overlying sand and gravel at Shorncote pit in the Upper Thames Valley. A contribution is also made from a number of other quarries that are, or were originally natural building stone operations. Of the three main limestone aggregate quarries there is potential for the working of land adjacent to Daglingworth and Huntman's Quarries. There is likely to be an exhaustion of aggregate reserves at Guiting Quarry during the Plan period which will lead to a theoretical production shortfall, however it is likely that this can be met from Daglingworth and Huntsman's Quarries where production capacity is flexible and not limited by condition. Guiting Quarry has sufficient reserves of building stone for the foreseeable future therefore the quarry's medium term future is for the supply of building stone products.

A6

3.5.15 The additional 3 mt can therefore be met through the delineation of additional resources adjacent to Daglingworth and Huntsman's Quarries in terms of capacity and continuity of supply. The production potential at these two quarries can easily meet any potential shortfall in forecasted demand. Preferred Areas are therefore identified at these two sites. Detailed working proposals and planning considerations for these sites are identified in the Inset Maps and Proposals of Chapter 10 of the Plan.

A6

Policy A6

Additional land for aggregates mineral development in the Cotswolds to meet the future limestone requirements of this Plan are identified as Preferred Areas at:

Northeast of Daglingworth Quarry; and
West, North and East of Huntsman's Quarry.

3.6 The Approach to the Delineation of Future Areas of Sand and Gravel Aggregates in Gloucestershire

Sand and Gravel – General

3.6.1 A7 Gloucestershire has a wide variety and distribution of drift [superficial] deposits which potentially contain sand and gravel. Most are associated with the County's major river systems and their geological occurrence is reasonably well understood. However, with the exception of those in the Upper Thames Valley relatively little is known about their resource potential for sand and gravel. Investigation by the British Geological Survey indicate that the river terrace deposits flanking the rivers Thames, Severn and Avon, and to a lesser extent their tributaries, appear to provide the greatest potential for workable sand and gravel.

3.6.2 A7 In the 1960s significant production of sand and gravel was being recorded from pits in the terrace deposits of the Severn Vale at Frampton-on-Severn and Twyning, the Windrush and Dikler Valleys at Bourton-on-the-Water, and the Upper Thames- particularly the latter. However, by the early 1970s sand and gravel production was concentrated on the terrace deposits of the Upper Thames Valley so that by the mid 1970s, over 95% of Gloucestershire's production was coming from this area. This is the situation today; in 1996 some 97% of production came from seven pits, four in the Fairford - Lechlade area and three in the South Cerney - Somerford Keynes area. In addition a further six sites contained reserves but were not being worked in 1996. The remainder of production (mainly as sand) came from three small pits in the Severn Vale [at Frampton-on-Severn, Shurdington and Bishop's Cleeve] and from one at Bromsberrow Heath, where there is also a dormant site.

3.6.3 A7 The Structure Plan policy M 8 recognises the significance of the Upper Thames Valley sand and gravel resource area by identifying it as the principal area of sand and gravel extraction in Gloucestershire in the period to 2011. The corollary of this is that only small-scale working (principally of sand) is expected to take place elsewhere in the County, maintaining their contribution to local and regional needs. This pattern of supply from Gloucestershire's sand and gravel resources meets the needs of the construction industry although it is accepted that the sand and gravel of the Upper Thames Valley differs mineralogically from that of the Severn Vale and Bromsberrow Heath - the former being limestone-based, the latter quartz-based. Nevertheless, there is nothing in the data collected annually on production and reserves, and less frequently on markets, to suggest that there is a regional or local shortage of aggregate minerals to meet the wide range of end-uses required by the construction industry.

3.6.4 A7 The importance of the Upper Thames Valley was affirmed by the preparation, and adoption, of the Upper Thames Plan [1989] [UTP] which presented a detailed and coherent strategy to assist the proper planning and control of mineral working, reclamation and after-use in the area in the period up to 1996. In particular this plan identified resource areas of sand and gravel [Areas of Search] from which the bulk of future reserve needs could be met in accordance with the requirements of its other minerals and environmental policies. A Review of the Upper Thames Plan was subsequently undertaken to carry forward the Plan's provisions to 2001 and in October 1993 it was adopted by the MPA for the purposes of development control until such time that it could be properly incorporated into a MLP. This Upper Thames Policy Review [UTPR] carried forward the Area of Search approach by identifying an additional tract of land in the Down Ampney area in order to meet the then forecasted longer term need for sand and gravel.

3.6.5 Focusing Gloucestershire's sand and gravel working in the Upper Thames Valley has brought a number of planning advantages. For example, it has enabled the planned and best possible use to be made of an extensive but finite mineral resource, and has facilitated, partly through the creation of an improved road infrastructure, the containment and control of the potentially disruptive nature of sand and gravel extraction and processing. In addition, it has been possible to make effective use of the opportunities arising from the comprehensive reclamation of worked-out areas. Bearing in mind this established framework of control, and that a proper contribution to the local and regional aggregate needs is being maintained, it is reasonable that the Upper Thames Valley should continue as the principal source of sand and gravel extraction in Gloucestershire.

A7

3.6.6 The pattern of working in the area over the last decade has been guided by the Areas of Search defined in the UTP [1989] and UTPR [1993]; and about ten million tonnes of reserves have been granted planning permission within them. At the present time there are almost thirteen million tonnes of sand and gravel reserves in the Upper Thames Valley at fourteen sites, and the UTPR [1993] identifies, through its Areas of Search, further resources. In addition land mentioned in the UTPR [1993], at Horcott [principally Lady Lamb Farm] and at Dryleaze Farm [near Shorncote] also contain substantial sand and gravel deposits.

A7

3.6.7 Elsewhere in the County there are estimated to be in the region of one million tonnes of reserves, principally of sand. Overall, measured against an annual production rate of up to 50,000 tonnes per year, these reserves would thus appear to be adequate for the period up to 2006.

A7

Resource Requirements

3.6.8 Table 2 demonstrates that an additional provision of 9.1 mt of sand and gravel will be required in the period to 2006. Because some 97% of the County's production of sand and gravel is obtained from the deposits of the Upper Thames Valley, and bearing in mind that in the remainder of the County reserves in relation to production levels [refer paragraph 3.6.7] are more than adequate for the period to 2006, it is reasonable to assume that effectively the whole of the local apportionment should be met from the former area.

A7

Appraisal and Future Provision of Sand and Gravel Resources in the Upper Thames Valley

3.6.9 An appraisal of resource areas omitted originally from the UTP [1989] and UTPR [1993] confirmed that they remain environmentally and technically constrained, taking into account, in particular, their location in relation to existing infrastructure, including the Eastern and Western Spine Roads, established patterns of afteruse, and the extent to which there is technical information about individual deposits.

A7

3.6.10 A further appraisal of technical and environmental constraints affecting the sand and gravel resources remaining in existing "Areas of Search", together with other areas identified in the UTPR, was also carried out. Bearing in mind the efficiency and environmental advantages of phasing future sand and gravel working to complete extraction first in existing working areas, the appraisal established that these resources continue to represent the best environmental and technical options for future supply in the period to 2006. It did, however, also highlight, in the context of the environmental and other policies of the Plan, issues to be resolved before sand and gravel working can take place in these areas, particularly in relation to matters of agricultural land grade, hydrology, archaeology, and the safeguarding of settlements and individual properties. Detailed working proposals and considerations for these sites are identified in the Inset Maps and Proposals contained in Chapter 10.

A7

3.6.11 The four Preferred Areas identified in Policy A7 make a potential provision of some 11 million tonnes. This, together with existing reserves, represents an adequate provision of sand and gravel in the MLP for the Plan period to 2006 and for a landbank in the post-Plan period. This provides flexibility in areas where sand and gravel yields do not, in practice, match resource estimates, or irreconcilable environmental or amenity issues arise. An area to the north of the existing Shorncote Pit [Dryleaze Farm] which is approximately 37 hectares, is likely to yield about 1.75 million tonnes of sand and gravel. Cerney Wick Preferred Area comprises 16.5

hectares. The extent of the resource is difficult to estimate but the likely yield is around 0.5 million tonnes. Horcott /Lady Lamb Farm Preferred Area consists of extensive deposits of sand and gravel, the 100 hectare area, may yield up to 3 million tonnes. Finally, Kempsford-Whelford Preferred Area is some 185 hectares in size with an estimated 6 million tonnes of sand and gravel.

Policy A7

Additional land for aggregate working in the Upper Thames Valley to meet the future sand and gravel requirements of this Plan are identified as Preferred Areas at:

1. **Dryleaze Farm,**
2. **Cerney Wick,**
3. **Horcott [including Lady Lamb Farm],**
4. **Kempsford – Whelford.**

3.6.12 In making provision for future sand and gravel needs the policies of the Plan are directed towards the completion of working in resource areas in the Upper Thames Valley which are currently being worked, or are with planning permission for mineral development. Apart from Dryleaze Farm and the relatively small parcel of land at Cerney Wick, this predominately involves the delineation of resources contained in the eastern part of the Upper Thames Valley near Fairford, Whelford and Kempsford. Since the adoption of the original UTP in 1989, and the subsequent UTPR approved for development control purposes in 1993, substantial planning permissions to meet sand and gravel needs, and to maintain a landbank of reserves, have been granted in defined "Areas of Search". In the UTPR [1993] a further "Area of Search" was identified over sand and gravel deposits south and south east of Down Ampney to meet forecasted future needs at that time. However the resources of this area have not been required and, based on present forecasts of future sand and gravel needs, this area will also not be required in the period to 2006. Sufficient resources are identified in the Preferred Areas, and mineral development elsewhere in the Upper Thames Valley would not be expected until the latter are substantially worked out taking into account the provisions of the environmental and other policies of the Plan. The Down Ampney resources will remain for sand and gravel provision in the longer term, subject to future environmental and technical acceptability.

3.6.13 In this context the relationship of the Down Ampney resources to areas of additional sand and gravel resources being identified in Wiltshire is to be noted. The latter's MLP Deposit Draft [January 1999] identified Preferred Areas to the south, south west and south east of the Down Ampney "Area of Search", and contiguous with it, [See Appendix H]. It is likely that there will be pressure for the release of some of this area in the Plan period. The owner of the land has indicated that fixed plant to process material from these Preferred Areas could beneficially be sited within Gloucestershire. This may not pose a problem for the Gloucestershire MLP provided that the phasing of working is properly controlled so that the working of resources on the Wiltshire side takes place before, and without prejudice, to those in Gloucestershire. Any proposals in this area brought forward in the Plan period will be viewed in the context of the environmental and other policies of the Plan, including the provisions of Policy A4.

Chapter 4
OTHER NON-ENERGY MINERALS

Sustainable Development Objectives:

- *Control of minerals supply in order to meet society's needs,*
- *Encourage optimum use of primary materials,*
- *Protect the water environment,*
- *Protect and/or recreate wildlife habitats,*
- *Protect and enhance national, regional and local biodiversity*
- *Protect and/or enhance local landscapes & built heritage,*
- *Protect archaeological sites and the historic environment,*
- *Protect and enhance local amenity,*
- *Develop an appropriate transport system for the movement of minerals,*

SUMMARY OF POLICIES		
Policy No.	**Subject**	**Structure Plan Policies [See Appendix B]**
NE 1	Supply of Building Stone	M9
NE 2	Clay	

4.1 Introduction

4.1.1 As well as being an important source of aggregates, many of the geological resources of Gloucestershire also provide locally important sources of non-aggregate minerals. These include limestones and sandstones worked for a variety of building purposes in both the Cotswolds and the Forest of Dean and clays for bulk fill and cover, flood defence and brick manufacture. Sources of iron ore are present but have not been worked in the County since the Second World War.

4.2 Natural Building Stone

National Policy Considerations

4.2.1 There is little detailed advice on the production and use of building stone; nor is there any national or regional guidance on building stone production or landbanks. Minerals Local Plan [MLP] policy for building stone has therefore to be considered against general advice for the winning and working of minerals contained in MPG1 and in the general advice for individual minerals, which says in respect of Dimension stone:

"Dimension stone is used for new buildings and architectural cladding and plays an important role in the restoration of historic buildings and the maintenance of local building character. Each type has to fulfil specific physical characteristics. It is important to recognise that in some cases it is quarried from geological formations, which are very restricted in occurrence. In order for a source to be commercially workable a number of physical parameters have to be satisfied, including colour, texture, hardness and homogeneity.
There is often a large proportion of waste that may be utilised as construction aggregate and production can be intermittent. It should also be borne in mind that long-life intermittently worked dimension stone quarries are often crucial to providing suitable stone for restoration of historic buildings and ancient monuments, and for that reason, small operations may be needed

in specific locations. Also that working and processing generally involve smaller areas and lower production rates than other mineral operations."

The County Situation

4.2.2 The geological occurrence of hardrocks potentially suitable for the provision of natural building stone is extensive in Gloucestershire, and with the exception of the Forest of Dean sandstones, is otherwise more or less coincident with the outcrop of aggregate mineral resources. Plan 3 shows the distribution of natural building stone quarries on these resource areas; they range from large aggregate workings [mainly in the Forest of Dean] where such material is only occasionally produced, to those relatively small sites where only natural building stone is worked. In between are hybrid quarries, largely in the Cotswolds, that produce both aggregates and natural building stone; however, many of these small to medium sites produce crushed rock from time to time as a by product of the extraction of natural stone. In some cases no more than 10% of the stone extracted is used for building purposes. In such situations it has been the practice of the Mineral Planning Authority [MPA] to require as much as possible of the unusable stone to be recycled as material for on site landscaping and reclamation schemes, usually in a progressive manner [See Chapter 7].

4.2.3 In the Cotswolds the greater part of the upland area comprises limestone beds of the Inferior and Greater Oolite Groups which have historically been worked in numerous locations for very local walling and building purposes, and has been the major determinant of the particular qualities of the Cotswold towns and villages. They have been and remain, an important source of natural building stone, including tilestone, walling stone and masonry stone for use in the local architecture. Today there are 21 quarries in the Cotswolds which contain reserves that could yield natural building stone; of these some 14 were wholly, or intermittently active in 1997 [see Plan 3]. The latter produce up to 50,000 tonnes of natural building stone annually, although prior to the late 1980's production was on average less than half this amount. There would appear on tonnage terms, to be sufficient stone reserves for the production of these materials during the Plan period. However, bearing in mind the wide variety of stone colours and textures present in Cotswolds limestone, and taking into account the difficulties in predicting the extent and location of future needs, this reserve may not be entirely sufficient for the Plan period. In Appendix D of this Plan, there is a description of the geology of the Cotswolds, which draws attention to the many different and localised stone types.

4.2.4 In the Forest of Dean, Carboniferous sandstones and limestones, together with Devonian "Old Red Sandstone" at one location, are in small measure used as natural building stone. They are not of the same significance as those of the Cotswolds with no more than 10,000 tonnes of natural building stone (including walling stone, paving stone, rockery stone, block stone and masonry stone) being produced annually, principally from Coal Measure sandstones of the Pennant Group and the "Old Red Sandstone". Reserves of these materials are to be found at nine mainly small sites, where stone is worked, often only intermittently and by hand, with very little equipment. The Carboniferous limestone quarries of the Forest of Dean, although almost wholly aggregate producers, may from time to time also provide small amounts of natural building stone. As in the Cotswolds there appears to be sufficient reserves for natural stone use in the Forest of Dean for the Plan period, but it is difficult to discern or predict any definite trend in demand because of the relatively low rates of extraction and the variety of stone colours and textures that are present. However, it is anticipated that there will be a continued demand albeit at a relatively low level, for natural building stone from the Forest of Dean in the future.

4.2.5 The Gloucestershire Structure Plan Second Review provides strategic guidance related to the extraction of natural building stone. Subject to environmental acceptability, it supports provision for additional sources of these materials for development in the local architecture. The policy allows for limestone working in the Cotswolds and the Forest of Dean for this purpose, to meet a need for local stone which could not be met from existing quarries. It is not intended for this policy to increase reserves of limestone aggregate, and therefore it ensures that no more stone than overburden is crushed as aggregate; as other policies in the Structure Plan and MLP make provision for the supply of aggregates. It recognises the resurgence in recent years of interest in Forest of Dean and Cotswold stones by greater pressure for quality of design and construction, and the recognition of positive benefits relating to the long term sustainability of

PLAN 3. BUILDING STONE* RESOURCES OF GLOUCESTERSHIRE
Scale: approx 1:250,000

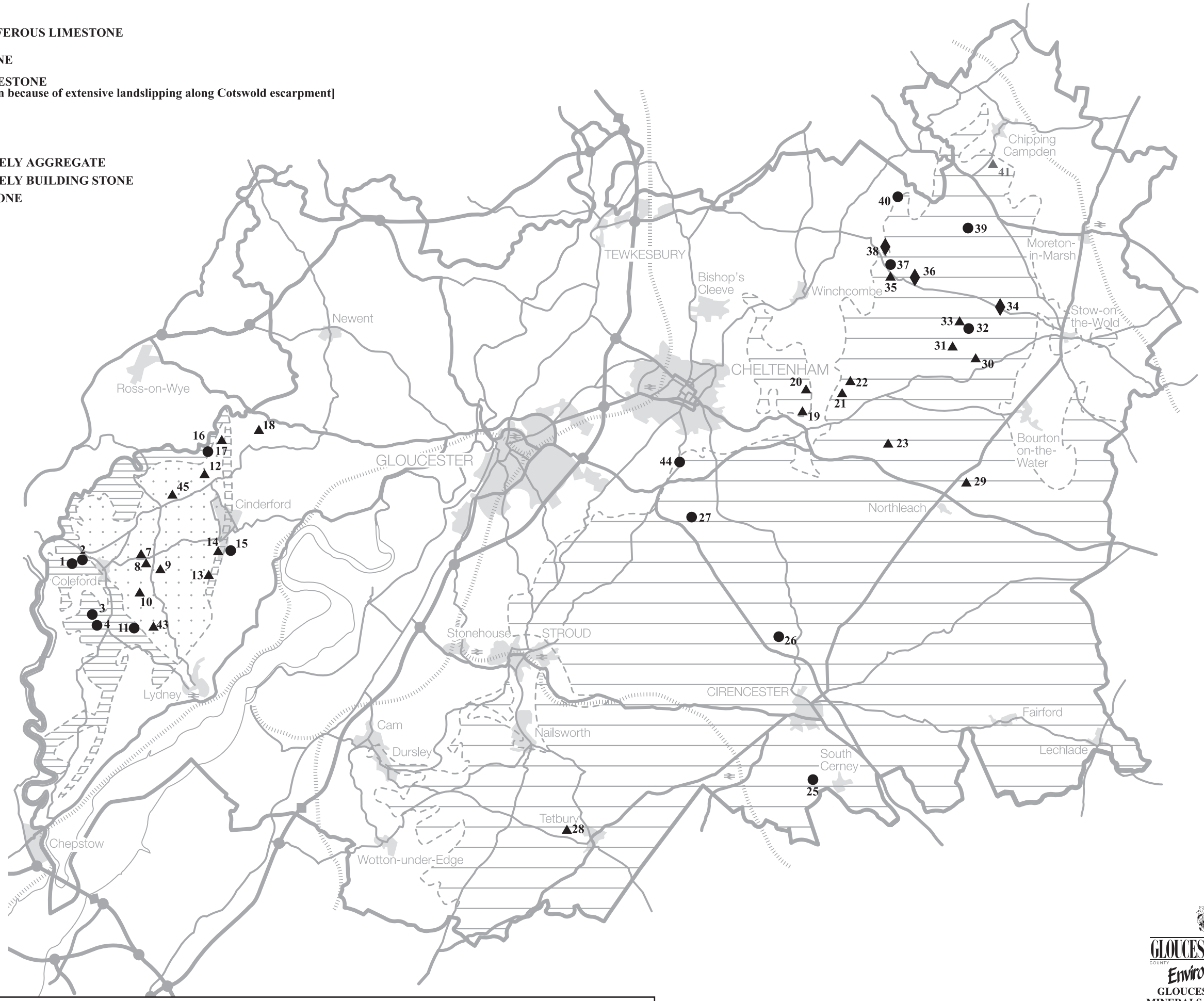
RESOURCE AREAS

- FOREST OF DEAN CARBONIFEROUS LIMESTONE
- CARBONIFEROUS SANDSTONE
- COTSWOLDS JURASSIC LIMESTONE
  [note: boundary in part uncertain because of extensive landslipping along Cotswold escarpment]

QUARRY TYPE

- ● PRINCIPALLY OR EXCLUSIVELY AGGREGATE
- ▲ PRINCIPALLY OR EXCLUSIVELY BUILDING STONE
- ♦ AGGREGATE / BUILDING STONE

1 Stowfield
2 Rogers
3 Clearwell
4 Stowe Hill
7 Wimberry
8 Bixhead
9 Minetrain
10 Birch Hill
11 Bream
12 Nailbridge
13 Meezy Hurst
14 Perseverance
15 Shakemantle
16 Drybrook
17 Puddlebrook
18 Wilderness
19 Syreford
20 Benshill
21 Soundborough
22 Oxleaze
23 Hazleton
25 Shorncote
26 Daglinworth
27 Birdlip
28 Veizey's (Chavenage)
29 Farmington
30 Brockhill
31 Grange Hill
32 Huntsman's
33 Tinkers Barn
34 Swellwold
35 Cotswold Hill
36 Oatshill
37 Three Gates
38 Guiting
39 Hornsleasow
40 Shenberrow
41 Stanley's
43 Old Flour mill - Bream
44 Crickley Hill
45 Great Berry



N

✻ including building stone, walling stone, block stone, masonry stone, dimension stone, tilestone, rockery stone and paving stone.

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GLOUCESTERSHIRE
MINERALS LOCAL PLAN
1997-2006

using natural building stone. In particular in this context there is the continuing demand for stone tiles in the Cotswolds, and research into more economic production methods.

4.2.6 The continued supply of natural building stone will promote and maintain the local distinctiveness of areas of the County. Policy 40 of the Cotswold District Council Local Plan (Deposit Draft) provides policy guidance as to the use of natural building stone. However the Proposed Modifications of this Plan identify a re-wording of this policy with the Design Code for Cotswolds being produced as Supplementary Planning Guidance. The implications of this policy guidance will sustain a level of demand for natural building stone in the Cotswold vernacular during the Plan period. The MPA recognises that other Districts in the County, for example, Stroud and Tewkesbury District Councils fall in part within the Cotswolds AONB and the supply of natural building stone is also important within these areas. In addition, the Forest of Dean District Council is preparing a design guide, which seeks to enhance the quality of the built environment within the Forest of Dean. The draft design guide encourages the utilisation of local natural building stone as a means of improving the design of the built environment and promoting the local distinctiveness of the area.

4.2.7 **NE1** Although the geological occurrence of limestone in the Cotswolds is reasonably understood there is no additional resource analysis that would assist in the identification of beds suitable for the production of natural building stone. Certain beds may be identifiable locally as a good source of such material by virtue of experience and historical usage. This knowledge may be sufficient to identify useful additional resources adjoining an existing quarry; but at a broader level the textural and compositional variability, and the unpredictable thickness, distribution and colour of individual limestone beds mitigate against precise resource identification. Thus, taking this into account in the context of national guidance and the strategic framework of the Structure Plan, it is not practicable at this stage to identify resource areas for the future working of natural building stone. Future reserves are likely to be found at existing sites; however, bearing in mind the diversity of needs for different stone colours and textures this will not always be appropriate, and the consideration of new sites may be required where the need for local stone can be justified. Although the impact of transport may not be such an important factor when considering the working of natural building stone compared to low value bulky aggregate materials, there may be some instances where a new site might be a more sustainable option for the supply of natural building stone rather than moving stone across large parts of the County. Extensions to existing mineral workings may also not be appropriate for environmental and other reasons, for some current sites, extensions are unlikely to be permitted unless substantial environmental gains are achieved through landscaping and reclamation proposals.

4.2.8 **NE1** New proposals for the extraction of building stone either through quarry extensions, or by new operations, will require careful consideration of the scale, nature and location of that operation. The production rate of natural building stone in the County is not high when compared to aggregates and the operational aspects such as noise or highway impact may generally not be as great. Notwithstanding this the location of such proposals requires careful consideration with regard to impact on local amenity and environment. This can be particularly pertinent when considering proposals for Cotswold limestone as the resource area is broadly coincident with the Cotswolds AONB. Bearing in mind that the MPA's policies and proposals for aggregates are contained in Chapter 3 of this Plan, any proposals for new locations not associated with existing sites, should be for natural building stone exclusively, although it is recognised that a percentage of stone may be produced which will have an end use as an aggregate.

4.2.9 **NE1** Although no delineation for future mineral working for natural building stone are made within this Plan for the reasons given in paragraph 4.2.7, any proposals which come forward will be considered against policy NE1 below. Policy NE1 in particular recognises that there may be occasions where the working of stone at a new site may be justified, particularly where it can be demonstrated that particular colours or textures of stone are required to meet local need. Proposals for the winning and working of aggregates appears in Chapter 3 of this Plan and it is not envisaged that any such proposals considered against Policy NE1, would involve the production of aggregates, apart from the crushing of stone waste which cannot be otherwise utilised. Proposals should also be in accordance with the other policies of the Plan, in particular

the environmental policies contained in Chapter 2, reclamation of worked out mineral sites contained in Chapter 8 and the Development Control Criteria in Chapter 9.

Policy NE1

Proposals for sandstone and limestone mineral working for natural building stone by extensions to existing workings, at new "greenfield" sites, or at sites where no valid planning permission exists, will only be permitted where:

1. **it can be demonstrated that needs for the local stone cannot be met adequately from existing reserves and that the proposals are for predominately the production of natural building stone; and**

2. **the need for the stone together with other planning benefits outweighs any adverse environmental, local amenity and other impacts of its winning and working; and**

3. **any crushing or screening of stone or overburden is confined to that removed in order to work the natural building materials and which cannot be used in the landscaping or reclamation of the site; and**

4. **they are in accordance with all other policies of this plan, in particular policies relating to Environment, Reclamation and Development Control.**

4.2.10 Both Carboniferous and Jurassic limestones are also crushed to a "grit" to be used seasonally for agricultural lime. The future requirement for such material cannot be defined; it is produced in association with other crushed rock products [aggregates] and tends to form only a minor proportion of crushed rock output.

4.3 Clay

National Policy Considerations

4.3.1 There is no detailed national advice on the production and use of clay; nor is there national or regional guidance on clay production or landbanks. MPG1, in providing general advice for individual minerals, says in respect of brick clay:

"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 need 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 characteristic 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"

The County Situation

4.3.2 The geological occurrence of clay in the County is widespread and extensive, comprising principally the Lower Lias Clay deposits of the Severn Vale and the Vale of Moreton, the clays of the Upper Jurassic [mainly the Oxford Clay], and the Upper Coal Measures clays of the Forest of Dean Coalfield. These clays have been used for a variety of purposes, including bulk fill [for example, in road construction], site cover at waste disposal sites, flood defence works, and in the making of bricks. It is unlikely that the scale of clay extraction in Gloucestershire has ever exceeded 50-60,000 tonnes per annum. With the exception of clay extracted for brick making at two sites in the County [one in the Forest of Dean and one in the Cotswolds],

NE2

planning permissions for clay working have, historically, been granted for specific purposes, and strictly time-limited. Another brick-making works in the Forest of Dean extracts secondary material (clay shale) from a former colliery tip.

4.3.3 NE2 At the present time extant planning permissions for clay extraction are to be found only at five sites in the County, two of which are directly connected with the brickworks previously mentioned where clay is worked commensurate with the requirement for bricks. Two further sites, one on the Lower Lias Clay, the other on the Oxford Clay are associated with the prior, and principal, extraction of overlying deposits of sand and gravel. Finally further planning permissions have been granted at a waste disposal site for the extraction of clay to be used for capping and other purposes.

4.3.4 NE2 The geology of the extensive clay outcrops in the County is known from published information; however, there is no additional resource evaluation other than that related to the limited extent of existing and past workings. However, it is likely that potentially workable clay resources for brick making can be found adjacent to existing brickworks. The future need for clay cannot be predicted but, based upon past trends, it is unlikely to be substantial. With the exception of the brick clays future demand is likely to be related to specific end-use requirements; for example flood defence works.

4.3.5 NE2 The Gloucestershire Structure Plan Second Review does not provide specific strategic policies related to clay production. Proposals for clay extraction in the County have been dealt with on their merits in the context of the environmental and other policies of the Structure Plan.

4.3.6 NE2 Taking into account national guidance and the nature and extent of existing clay working in the County, it is not considered appropriate to identify resource areas for future clay working in the Plan. The three brickworks in Gloucestershire, using indigenous clays, already have sufficient reserves adjoining their sites to provide the raw materials required for brick production at current rates of output in the Plan period, and beyond. It is recognised, however, that should requirements for clay at these brickworks change significantly in the future then there may arise a need for additional reserves.

Policy NE2

Proposals for the working of clay will be permitted where its use for a specific purpose outweighs any adverse environmental, local amenity, or other impacts that the development would be likely to have, and would not prejudice the other policies of this Plan.

4.4 IRON ORE

4.4.1 The iron ores of the Forest of Dean have been worked since Roman times, and the manifestation of their working- the ancient outcrop workings known as "scowles"- forms part of the heritage of the area. There is evidence of considerable iron mining during the Roman Occupation, smelting being carried out using locally burnt charcoal. Up to the nineteenth century the mining of iron ore was more than that of coal. During the eighteenth and nineteenth centuries ore was extensively worked by shafts and levels, but by the beginning of the present century mining had virtually ceased with the exhaustion of workable reserves. There was a slight revival of activity during the two world wars; the last iron mine closed down during the latter war. Further, the red and yellow earthy iron oxides known as “ochre” have also been worked in several localities in the Forest of Dean for the manufacture of pigments and are still obtained in small quantities from the workings at Clearwell Caves. At this stage there is no imperative for the MLP to provide specific policies for the provision of iron ore. Any proposals that might arise during the Plan period may be adequately dealt with by the other policies of the Plan, particularly in relation to the protection of the environment.

Chapter 5
ENERGY MINERALS

Sustainable Development Objectives:

- *Control of minerals supply in order to meet society's needs,*
- *Encourage optimum use of primary materials,*
- *Prevent mineral resources from being sterilised by development,*
- *Protect the water environment,*
- *Protect and/or recreate wildlife habitats,*
- *Protect and enhance national, regional and local biodiversity*
- *Protect and/or enhance local landscapes & built heritage,*
- *Protect archaeological sites and the historic environment,*
- *Protect and enhance local amenity,*
- *Develop an appropriate transport system for the movement of minerals,*
- *Recognise the direct and indirect economic benefit generated by mineral development.*

SUMMARY OF POLICIES		
Policy No.	**Subject**	**Structure Plan Policies [See Appendix B]**
EM 1	Opencast Coal Extraction	M10
EM 2	Small Scale Underground Mining	
EM 3	Colliery Spoil	
EM 4	Existing Colliery Spoil Tips	
EM 5	Reworking Colliery Spoil Tips	
EM 6	Oil and Gas	

5.1 Introduction

5.1.1 In Gloucestershire "energy minerals" comprise coal, and potentially oil and gas, the principal end-use being for energy generation. The main objective of national energy policy* is *"to ensure that the country's energy supplies are secure, diverse, environmentally sustainable and at competitive prices."* The Government believes that diversity in types of fuel supplied, in sources and suppliers of those fuels, and in means of delivery promotes security. It is nevertheless concerned that energy supplies conforms with national targets for reducing atmospheric emissions. The Government also recognises that virtually all energy supplies have environmental impacts and that it is for the planning system to determine the environmental acceptability of individual projects in accordance with the principles of sustainable development. Subject to these concerns the Government believes that its objectives are best achieved through open and competitive markets and by providing a level playing field between fuels and within each fuel sector. In this respect, therefore, there is no target level for opencast coal production or the production of oil and/or gas from onshore resources.

* The Government's White Paper on the conclusions of the Review of Energy Sources from Power Generation [October 1999] sets out proposals to achieve the Government's central energy policy.

5.2 Coal

Background

5.2.1 National guidance on coal mining, including coal extracted by opencast methods, is set out in Mineral Planning Guidance Note 3 "Coal Mining and Colliery Spoil Disposal" [MPG3 March 1999] which has recently been revised. The Revised MPG3 now places greater weight on protecting the environment from the adverse impacts of coal development.

5.2.2 MPG3 advises that, in the context of national energy policy, coal which can be mined economically in an environmentally acceptable way is an important indigenous resource. The Government recognises, however, that coal extraction has a significant environmental impact and that the acceptability of individual proposals is to be determined by the land-use planning system, bearing in mind that coal can only be worked where it is found. Revised MPG3 provides guidance on applying the principles of sustainable development to coal extraction, introducing a presumption against such development unless proposals meet the following test:

(i) Is the proposal environmentally acceptable, or can it be made so by planning conditions or obligations?
(ii) If not, does it provide local or community benefits which clearly outweigh the likely impacts to justify the grant of planning permission?
(iii) In National Parks and Areas of Outstanding Natural Beauty proposals must meet an additional test (as stated in MPG3),
(iv) Proposals within or likely to affect Sites of Special Scientific Interest and National Nature Reserves must meet an additional test (as stated in MPG3) and,
(v) Proposals within the Green Belt must meet an additional test (as stated in MPG3).

The County Situation

5.2.3 In the Structure Plan Second Review policy M10 provides the strategic context for future coal development in the Forest of Dean Coalfield. It recognises the unique character of the Forest of Dean, the constraints to coal extraction in this area, the historic context of the activity, and the national guidance on the working of coal.

Resource

5.2.4 The Forest of Dean Coalfield, some 90 km^2 in area, is completely exposed; it is a saucer shaped structural basin clearly outlined by the outcropping of the coal seams (see Plan 4a and 4b). The oldest Coal Measure rocks in the Coalfield are those of the Trenchard Formation, which in the Coleford area contains the Trenchard Seam which is up to 1.5 metres thick. In the southern part of the Coalfield the Trenchard Formation consists of up to 20 metres of mainly grey sandstones, but to the northeast it passes into barren red shales and mudstones. The overlying Pennant Formation (up to 250 metres in thickness) is predominately sandstone but contains the Coleford High Delf Seam. This seam, 1 to 1.5 metres in thickness, has supplied virtually all output of coal since the Second World War. Other seams in the Pennant Formation, e.g. the Whittington and the Yorkley Seams have been worked over more limited areas. Above the Pennant Formation lies the Supra-Pennant Formation; it can be distinguished into two parts. The lower part is about 90 metres thick and is largely shales and mudstones but contains eight workable coal seams (often informally known as the Household Coals). Many of these seams split into leats (layers separated by soft mudstone partings), and may only be workable where they run together. Above the coal seams the upper part of the Supra-Pennant Formation, about 250 metres thick and comprising shales and sandstone, contains further coal seams that are exposed in the centre of the basin structure e.g. the Lower and Upper Woorgreen Seams.

5.2.5 Although the geology of the Forest of Dean Coalfield is reasonably well understood there are no accurate records of the quantity, quality or disposition of remaining coal deposits. However, it is estimated that in the region of 12 million tonnes of potentially workable coal, recoverable by opencast or shallow underground mining, may be present. There is unlikely to be any realistic possibility of new deep mining operations because of the economics of present day coal mining.

PLAN 4a. EXPOSED COAL SEAMS OF THE FOREST OF DEAN COALFIELD
Environmental Constraints

WYE VALLEY
AREA OF OUTSTANDING NATURAL BEAUTY

SITE OF SPECIAL SCIENTIFIC INTEREST

SSSI UNDERGROUND BOUNDARY ONLY

RSPB RESERVE

ANCIENT SEMI NATURAL WOODLAND

FOOTPATH

ROAD USED AS A PUBLIC PATH

BRIDLEWAY

EXPOSED COAL SEAMS

N

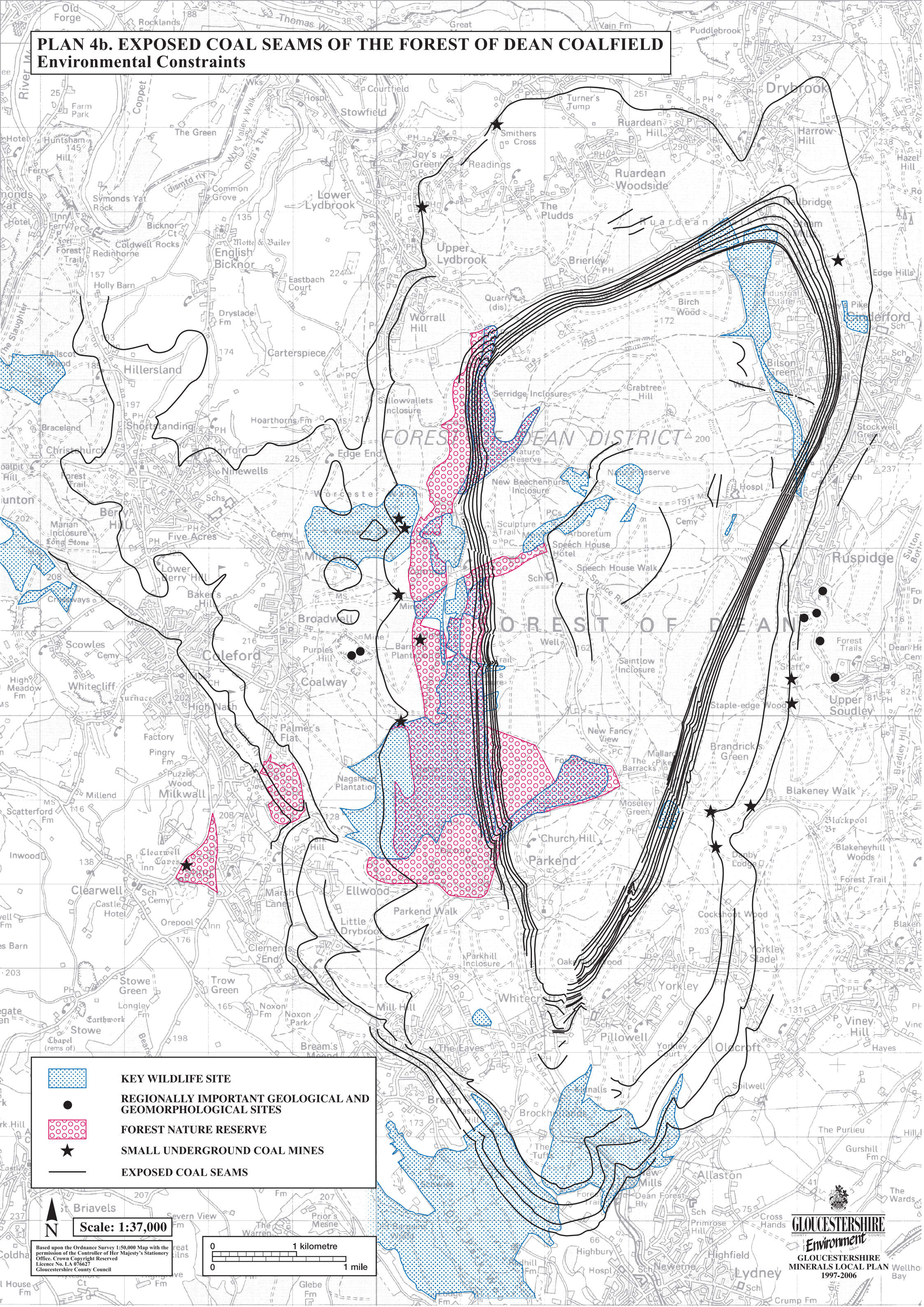
Scale: 1:37,000

0 1 kilometre
0 1 mile

GLOUCESTERSHIRE COUNTY COUNCIL
Environment

GLOUCESTERSHIRE
MINERALS LOCAL PLAN
1997-2006

PLAN 4b. EXPOSED COAL SEAMS OF THE FOREST OF DEAN COALFIELD
Environmental Constraints



This resource represents a very small proportion of the original coal reserve, which at the turn of the Century was estimated to be around 180 million tonnes.

Historical Context

5.2.6 Coal has probably been worked in the Forest of Dean since Roman times, though definite evidence of mining dates back to the 13th century. At first mining took the form of shallow workings along the exposed coal seams. Later, drifts and eventually deep mines were established; workings developed in belts along the outcrop and much coal has been won by adit levels which provided a natural drainage. Many seams were worked throughout the Coal Measures of the Forest of Dean, but the bulk of the production has always been from the Coleford High Delf; a seam of high quality over a metre in thickness which is found throughout the Coalfield. All the mines are now closed, but a few drifts are still operating, albeit intermittently, principally in the Yorkley and Coleford High Delf seams, producing a few thousand tonnes of coal a year.

5.2.7 The rights of the inhabitants of the Forest of Dean to work coal, subject always to the relevant planning permissions being obtained, are enshrined in ancient law and custom. Appendix K provides a summary of the law in this respect.

5.2.8 Since the Second World War, coal has been worked in relatively small amounts by opencast methods along the outcrop of the seams. It is estimated that only some 0.75 million tonnes of coal has been extracted by this method. No coal has been produced since 1985.

5.2.9 The coals of the Forest of Dean Coalfield are essentially bituminous, the majority of them having strong coking properties. The Pennant Formation provided gas-making and long-flame steam coal, whilst the Supra- Pennant Formation furnished house coals.

5.3 Future extraction of Coal

5.3.1 **EM1** MPG3 advises that within the context of the test outlined in paragraph 5.2.2 Minerals Local Plan [MLP] should indicate where coal extraction is likely to be acceptable; where it is unlikely to be acceptable; and where coal resources are to be safeguarded for future working. Account should be taken of the principal impacts of future coal development. It is recognised that the extent to which such areas may be identified will depend on local circumstances and a detailed knowledge of the resource. Accordingly the Mineral Planning Authorities [MPAs] are advised in their plan to indicate broad areas of search; or the extent of the shallow Coalfield area and the constraints within that area; or a combination of all two.

5.3.2 **EM1** Although the geology of the coal outcrops is known there is a lack of detailed resource knowledge, exacerbated by a long history of uncoordinated, and often unrecorded, surface and underground mining, with which to identify specific tracts of coal resource workable by opencast or underground methods. Taking into account that no level of coal production is given in national guidance, and bearing in mind also that minimal coal working and exploratory work has been undertaken in the Forest of Dean Coalfield in the last decade, it would be impracticable to identify areas of search. Therefore, this plan defines the known extent of the Coalfield and the constraints within it [See Plan 4a and 4b]. The latter are investigated and appraised to provide a criteria based approach to any future surface and/or underground proposals for the extraction of coal.

5.3.3 **EM1** The Forest of Dean owes much of its unique character, range and quality of landscape and other important features to its industrial heritage including the extraction of coal by various methods. Different methods of coal extraction will have varying degrees of impact on the environment. Shallow underground mining currently takes place with minimal environmental impact at a small number of locations. Deep mining ceased in the Forest of Dean many years ago but historically has had a significant impact on the landscape, including the creation of colliery spoil heaps. Extraction of coal by the opencast method can result in significant environmental

impact unless carefully controlled. Currently, there are no opencast coal sites in the Forest of Dean Coalfield. The Mineral Planning Authority recognises that, as with the extraction of other minerals, coal extraction by opencasting can provide opportunities to enhance the local environment and amenity by imaginative and innovative reclamation of worked areas, particularly in areas of derelict or degraded land, including land previously worked for minerals.

5.3.4 There are a range of constraints, which need to be considered when dealing with proposals for coal extraction and particularly opencast methods, in the Forest of Dean Coalfield. Although the Policies in this Plan that safeguard and seek to enhance the environment [see Chapter 2] relate generally to mineral development, as Revised MPG3 indicates, there are specific matters that need to be addressed in the particular respect of coal. Policy EM1 recognises the particular environmental and amenity concerns of the Forest of Dean. Table 3 provides a specific environmental framework within which any future proposals for the opencast working of coal will be considered in the context of Policy EM1. In line with government guidance the MPA will favour proposals which provide significant local community/environmental benefits in the long-term. These benefits might include the long-term regeneration of derelict land, improvements to the biodiversity of the local area, improvements to public access, and enhancement of the landscape.

EM1

Table 3

ENVIRONMENTAL CONSTRAINTS [See Plan 4 a and 4 b]				
Category of Constraint	**Principal Policy E1**	**Primary Policy E2, 3, 4,5,6, 7, 11 & 12**	**Secondary Policy E8, 9, & 10**	**Other Policy E13, 20, DC1 - 7**
Landscape	None	Wye Valley AONB	Coalfield wholly within Special Landscape Area.	Landscape impact of proposal will be judge in the context of Forest of Dean Landscape Assessment.
Nature Conservation	There are no Special Areas of Conservation or Special Protection Areas within the area covered by the Plan 4a. However, the wider Forest of Dean does include 4 sites of Candidate Special Area of Conservation for their breeding bat interest. The bat populations subject to protection within the cSAC also use extensive underground mines systems of this central area of the Forest of Dean and English Nature has adopted a wider conservation strategy to assist in securing protection of vital roosting sites, which will need to be considered.	13 Sites of Special Scientific Interest 1 RSPB Reserve	Numerous County Key Wildlife Sites and Regionally Important Geological Sites.	The Cannop Valley supports diverse range of habitats, mineral development in such highly constrained areas is not appropriate.

ENVIRONMENTAL CONSTRAINTS [See Plan 4 a and 4 b]				
Category of Constraint	**Principal Policy E1**	**Primary Policy E2, 3, 4,5,6, 7, 11 & 12**	**Secondary Policy E8, 9, & 10**	**Other Policy E13, 20, DC1 - 7**
Archaeology	N/A	23 SAMs and Numerous nationally significant remains.	Numerous locally significant remains.	There is a wealth of archaeological remains resulting from the industrial heritage of this area which must be appraised.
Water Environment	N/A	Major public supplies at Cinderford [Buckshaft], number of private supplies.	N/A	N/A
Agricultural Land	N/A	Areas of Best and Most Versatile land [grade 2/3a] near Coleford.	N/A	N/A
Highways	N/A	N/A	N/A	The road network within the Coalfield has limited capacity. The main lorry routes are the A4136 and A48. The B4228 past Trow Green, A4151 and B4226 to access Cinderford are unacceptable for the movement of coal.
Public Access	N/A	N/A	N/A	Forest Enterprise is committed to allowing "Freedom for access on foot" in the Forest Park Area
Economic Development	N/A	N/A	N/A	The Forest of Dean is a Rural Development Area. Areas promoted for inward investment [Forest Vale Industrial Estate] must not be compromised.
Tourism and Recreation	N/A	N/A	N/A	Numerous tourist attractions; Mallards Pike, New Fancy, Beechenhurst, Speech House, Cannop Valley Etc.

Policy EM1

Proposals for the extraction of coal by opencast methods and the disposal of colliery spoil will not be permitted unless they satisfy all the following criteria:

1. **there is no unacceptable detrimental effect on the local environment, including public access, on neighbouring land-uses, settlements or on those related to economic regeneration,**
2. **provision is made for the environmentally acceptable transportation of coal and other materials in accordance with policy E20 of this plan,**
3. **the tourism and recreation role of the Forest of Dean is not prejudiced, and**
4. **they are in accordance with all other policies of this plan, in particular policies relating to Environment, Reclamation and Development Control.**

In the case of proposed extensions to existing coal extraction sites, the cumulative impact of the development on all aspects of the environment will be considered.

If the proposal does not satisfy the above criteria and adverse impacts are identified, then the development proposed will not be permitted unless it incorporates opportunities to benefit the environment, amenity and community of the Forest of Dean and that those benefits would outweigh the adverse impacts.

5.3.5 In respect of the underground working of coal, the carrying out of mining operations, and associated surface works, constitutes development requiring planning permission. This requirement needs to be reconciled with the ancient customs and traditions of the Forest of Dean and Freemining [See Appendix K]. The MPA supports the latter's role as part of the living heritage of the Forest of Dean, but would seek to ensure that it is compatible with present day environmental concerns and planning practices.

EM2

Policy EM2

Proposals for small-scale coal underground mines, which contribute to the cultural and industrial heritage of the Forest of Dean will be permitted where they are environmentally acceptable in accordance with the other relevant policies of this Plan.

5.4 Colliery Spoil

5.4.1 A by-product of underground coal extraction is the creation of colliery spoil. Historically coal mining in the Forest of Dean Coalfield has created many separate colliery spoil tips. Present day shallow underground mining yields little or no spoil for surface disposal; most is stowed underground in worked out voids as extraction advances. In the case of opencast coal extraction, mineral operators will be expected to utilise the overburden, as far as possible, for site construction and maintenance, and to facilitate landscaping and subsequent reclamation of the worked out site.

EM3

Policy EM3

Proposals for the working of coal will not be permitted unless disposal of colliery spoil or overburden does not result in unacceptable harm to the environment, as guided by all relevant policies of this Plan.

5.5 Existing Colliery Spoil Tips

5.5.1 EM4 There are some eighteen old colliery spoil tips within the Coalfield, many of which have become an integral part of the Forest, contributing to the quality and historical interest of the landscape in this area. A Report commissioned jointly by Forest of Dean District Council and the Forestry Commission appraised the relative value of these tips in order to identify those tips which merit preservation. The report concluded that five areas (Waterloo, New Fancy, Flour Mill, Cannop and Crump Meadow) represent an important part in the Forests mining history, which are an added attraction for people visiting this area. The MPA will support initiatives to safeguard and sensitively manage such colliery spoil tips for the benefit of current and future generations of people using and visiting the Forest of Dean.

5.5.2 EM4 Although certain existing spoil tips can be identified as having greater attributes than others it is clear that some more minor tips are worthy of protection and enhancement as collectively these spoil tips and surrounding areas are potentially important artefacts of the industrial heritage of the Forest of Dean. The MPA will support initiatives to enhance areas, which are currently derelict but once reclaimed may contribute to the interest of the area.

Policy EM4

Old colliery spoil tips, which contribute to the landscape quality, wildlife interest and/or industrial heritage of the Forest of Dean, will be safeguarded from mineral development that could potentially damage or destroy them. Such development will only be permitted where it will enhance old colliery spoil tips, and is in accordance with all other relevant policies of the Plan.

5.5.3 EM5 Certain spoil tips that are not considered important landscape or industrial archaeological features, may be reworked in order to recover secondary [waste] materials which can be used to reduce the need for primary minerals. However, the same environmental constraints apply to the reworking of spoil tips as they do the workings of primary minerals. Under certain circumstances it may prove viable to rework spoil tips to recover coal [sometimes together with minestone and clay]. However, the heterogeneous nature of tip material [particularly the disposition of burnt and unburnt colliery waste] often makes it difficult to predict with any certainty the quantity of economic minerals to be recovered. Many tips in the Forest of Dean Coalfield have been investigated for this purpose, and some completely or partially worked. Although the Plan makes no specific provision in this regard the prospect of further recovery proposals cannot be ruled out. The MPA will only permit such proposals where the development does not have a significant environmental impact.

Policy EM5

Proposals for the reworking of old colliery spoil tips for either coal or secondary (waste) materials will not be permitted unless they are environmentally acceptable in accordance with other policies in this Plan and they provide opportunity for environmental enhancement.

5.6 Other Minerals

5.6.1 MPG3 advises MPA to consider the working of other minerals deposits that may be accessed through the working of coal seams. This ensures the efficient working of a natural resource by preventing sterilisation and minimising wasteful restoration and environmental disturbance. The coal seams accessible by opencast working in the Forest of Dean may be associated with other minerals, in particular brick clay and fire clay [a fossil soil, usually found beneath coal seams

suitable for refractory uses]. However, historically they do not appear to have been exploited to any significant extent in association with opencast coal extraction. Further there is no information available as to their extent and potential economic utility. Therefore no specific provision for such proposals are made in this Plan, and bearing in mind national guidance any proposals in this respect would be considered in the light of the policies on the extraction of coal by opencast methods.

5.7 Oil and Gas

National Policy Considerations

5.7.1 National guidance in respect of oil and gas is contained in Department of Environment Circular 2/85, "Planning Controls over Oil and Gas Operation" which recognises that the Nation's interest in developing indigenous on-shore oil and gas reserves can conflict with that of protecting the environment. It is for the MPA to determine any proposals on their merits, taking into account energy and environmental policy considerations. A draft MPG, published in September 1996 and intended to replace Circular 2/85, proposed a policy framework for the MPA and industry to ensure that the development of onshore oil and gas resources takes place in a way that protects the environment and is in accordance with the principles of sustainable development. This draft MPG has yet to be adopted and is likely to be revised and re-issued for consultation in light of the Government's reviewed energy policy. A timetable for the publications of the revised draft has not yet been established.

5.7.2 Hydrocarbon resources are vested in the Crown and no company is permitted to search for, or develop, oil and gas resources without a licence from the Department of Trade and Industry. The main objectives of the licensing regime are to secure the comprehensive exploration and appraisal of U.K. oil and gas prospects and the economic development of discovered reserves in a safe, orderly, and environmentally acceptable manner. However, planning decisions on on-shore oil and gas development rests with the MPA, subject to the Secretary of State's powers to call in an application for his decision. Circular 2/85 advises the MPA, whose areas are covered by licences, to consider the inclusion of policies for oil or gas in their MLPs consistent with the national policy considerations.

5.7.3 It is good practice for industry to discuss fully their proposals with the MPA and the statutory agencies. The drilling of deep boreholes for exploration purposes requires an application to be made and planning permission granted by the MPA. Each application will be considered on its merits, and not influenced by any hypothetical future development.

5.7.4 Should hydrocarbons be found as a result of exploratory drilling then delineation of the extent of the field will require further drilling and investigation. If an economically workable oil and/or gas resource is delineated by the appraisal and testing programmes then the question of the provision of processing and distribution facilities will arise, raising significant environmental issues. Hydrocarbon production normally involves the drilling of additional wells, the provision of a gathering station to render the oil and/or gas suitable for transport off site, the provision of an export terminal, and the installation of a means of transport (pipeline, rail or road).

The County Situation

5.7.5 **EM6** Since the Second World War, Gloucestershire has been subject to many oil and gas exploration licences, involving extensive seismic and other investigations. These culminated in the drilling of six deep [up to 2,250 metres] boreholes in the Cotswolds and the Forest of Dean to investigate promising rock structures at depth that might contain hydrocarbons, between 1975 and 1990. However, no information is available as to the commercial value of these investigations, and the oil and gas potential of the geological structures beneath Gloucestershire remains unquantified. Since the early 1990's there has been little or no active interest in further oil and gas exploration in the County and it is impossible to predict the extent, nature, and outcome of any future oil and gas exploration in Gloucestershire during the Plan period.

5.7.6 Policy EM6 indicates that exploration for oil and gas will normally be permitted, subject to stringent safeguards. It enables the extent of oil and gas resources in the County to be identified for both national and local planning purposes. Experience in Gloucestershire has shown that the exploratory boreholes have involved intensive, but short-term, activity. Typically, site preparation, drilling, and restoration has taken no more than three months and frequently less time. All sites were restored, generally to agriculture, satisfactorily, and no problems have arisen subsequently.

EM6

5.7.7 If oil and/or gas bearing structures are found by exploration to be worthy of further investigation, proposals then to define the extent, nature or commercial viability of the discovery may be brought forward. In such circumstances additional investigations would need to be considered within the framework of a comprehensive appraisal scheme. Should the development of the resource prove to be feasible, an impact analysis and a comprehensive scheme for the overall development of the proven field would be required. Appraisal and development schemes will need to be fully cognisant of the other policies of the MLP, especially those designed to limit environmental damage. Complete restoration will need to be a feature of all schemes and proposals, so that no lasting landscape or other scars or dereliction results from oil and/or gas activities in Gloucestershire. They will also be viewed by MPA within the context of national energy policy.

EM6

5.7.8 As there is no information available as to the disposition or nature of potential oil and gas resources in Gloucestershire it would be impractical to indicate in the MLP those areas where oil and gas are likely, or not likely, to be acceptable in principle, or to specify, other than in the broadest of ways, the parameters within which any appraisal or production proposals might be acceptable. If such proposals were to be submitted then they would need to relate to a scheme for the appraisal/development of the whole of the identified resource.

EM6

Policy EM6

Proposals for the appraisal and development of oil and gas resources identified by exploration will be permitted where the development does not adversely affect the environment or harm local communities and accords with all other relevant policies of this Plan.

Chapter 6
MINERAL EXPLORATION

SUMMARY OF POLICIES		
Policy No.	**Subject**	**Structure Plan Policies [See Appendix B]**
EX 1	Mineral Exploration	

6.1 Introduction

6.1.1 Exploration for minerals has always been an essential technical prerequisite of mineral exploitation; minerals may only be worked where they naturally occur in economic amounts. It is generally classed as development, permitted or otherwise, and forms an integral part of any application to extract minerals.

6.2 National Policy Consideration

6.2.1 The Town and Country Planning [General Permitted Development] Order 1995 [GPDO] makes many operations associated with mineral exploration permitted development. Part 22 of Schedule 2 to this Order provides for two Classes of permitted development for mineral exploration, including the drilling of boreholes, conducting seismic surveys and the making of excavations subject to certain restrictions as to duration, location, and nature and extent of the exploration. Such development is subject to condition as specified in the Order, and for a longer period of permission covered by the second Class the Mineral Planning Authority [MPA] must be notified, giving it the opportunity to negotiate improvements in the proposals if appropriate. The GPDO, however, specifically excludes the drilling of boreholes for petroleum exploration. In addition to the requirements of Town and Country Planning legislation under the terms of Section 199 of the Water Resources Act 1991, operators intending to carry out exploration borings must give prior notice to the appropriate Area Office of the Environment Agency.

The County Situation

6.2.2 Gloucestershire's varied geology indicates that minerals of potential economic utility may be found throughout the County, and knowledge of their character and disposition is required in order to exercise effective minerals planning. Notwithstanding the provisions of the GPDO it is, therefore, reasonable to establish a policy context for the consideration of proposals for mineral exploration where it gives the MPA discretion, or where planning permission is required. The latter category will include exploratory boreholes to investigate underground structures of oil and/or gas potential. In principle, it is desirable that there should be comprehensive information on the nature and extent of mineral resources in Gloucestershire; and, in the submission of an application for mineral working full details, and proof, of the quantity and quality of the reserve potential within the application area is required [see the Development Control Criteria, Chapter 9].

EX1

6.2.3 It is important to ensure that any adverse effects of mineral exploration are minimised, particularly in respect of such factors as access, disturbance [including noise, dust, and visual intrusion] and site restoration. Experience in Gloucestershire indicates that proposals for the exploration of mineral deposits, including for oil and gas, tend to have only a limited short-term

EX1

temporary impact on the environment. Minerals exploration which may affect nationally important landscape (AONBs), nature conservation interest (SSSIs), and archaeological remains will require consultation with the appropriate authority before the development may be permitted, for example, the Countryside Agency, English Nature or English Heritage and the County Archaeologist.

6.2.4 Policy EX1 does not in any way imply, or constitute, a presumption in favour of subsequent exploitation at any time. The working of minerals will be subject to the other policies of the MLP. The policy rationalises existing practice by ensuring that exploration only takes place with adequate environmental safeguards. In considering the adequacy of the environmental safeguards the MPA will be guided by the provisions elsewhere in the Plan, particularly those in Chapter 2 relating to safeguarding the environment. The policy has particular application in the exploration phase for oil and/or gas; to enable the extent of oil and gas resources in the County to be identified for both national and regional planning purposes. If oil and/or gas structures were to be found by exploration to be worthy of further investigation then a programme of economic appraisal might follow; this matter is dealt with in greater detail in Chapter 5 and is the subject of a separate policy.

EX1

Policy EX 1

Proposals for the exploration of mineral resources will be permitted, for a temporary period, subject to satisfactory environmental safeguards, including full reinstatement following completion of operations.

6.2.5 Those carrying out mineral exploration, are encouraged to make the findings available to the MPA, wherever possible. Such information is critical to the future appraisal of the County's mineral resource. The MPA appreciates that this information is often commercially sensitive, and therefore would treat it with the strictest confidence.

Chapter 7
SAFEGUARDING AND THE EFFICIENT USE OF MINERAL RESOURCES

Sustainable Development Objectives:

- *Encourage optimum use of primary materials,*
- *Prevent mineral resources from being sterilised by development,*
- *Encourage the use of secondary [waste] and recycled materials.*

SUMMARY OF POLICIES		
Policy No.	**Subject**	**Structure Plan Policies [See Appendix B]**
SE 1	Processing Secondary Materials	M2
SE 2	Minerals Waste Minimisation	M2
SE 3	Safeguarding Mineral Resources	M6
SE 4	Prior Extraction of Mineral Resources	M6

7.1 Introduction

7.1.1 Primary aggregates are an important finite natural resource, which in accordance with the principles of sustainable development should be used efficiently and wherever possible substituted by alternative materials. The Mineral Planning Authority [MPA] recognises that the use of secondary [waste] materials and the recycling of construction materials is to the County's advantage and should be encouraged wherever practicable. However, the use and processing of secondary [waste] and recycled materials, like primary minerals, have environmental, technical and economic implications which need to be addressed.

7.1.2 The MPA's role in promoting the efficient use of minerals is inevitably constrained by the nature of the planning system, which essentially only deals with land-use issues. However, the MPA promotes the use of recycled and secondary [waste] materials, which substitute primary aggregate, and promotes waste minimisation in relation to mineral development. Additionally, it will seek to safeguard high quality mineral resources and continue to raise Industry's awareness about environmentally sound working practices and the need to ensure appropriate use of natural resources.

7.2 Secondary [Waste] and Recycled Materials and the Efficient Use of Primary Minerals

7.2.1 In the interest of sustainable development Mineral Planning Guidance Note 6 "Guidelines for Aggregates Provision in England" [MPG6] seeks to bring about a gradual change from the present supply approach so that over time less reliance will be placed on the traditional land-won sources. The MPA, therefore, supports sensible use of secondary [waste] and recycled materials in construction and is committed to encouraging ways to increase their use significantly.

SE 1

Use of secondary and recycled material in South West Region and Gloucestershire

7.2.2 In respect of the South West Region, MPG6 anticipates that of the expected resource demand in the period to 2006, approximately 7½% [60mt] should be provided from secondary and recycled materials. This amounts to an average yearly provision of some 3-5mt. At the present time the annual usage is probably about 2mt. Currently, in the South West Region most usage and future potential from secondary aggregates come from china clay waste. The sand is used to a considerable extent in Cornwall but a wider market is constrained by the transport cost and by technical limitations of specifications.

SE 1

7.2.3 In Gloucestershire there is currently limited potential for the significant use of secondary (waste) materials. Old colliery spoil tips of the Forest of Dean Coalfield is one source of secondary materials [See Chapter 5]. Some now form a part of the landscape, having been naturalised or otherwise modified for recreational purposes. This material is of variable quality, which may limit marketing potential. Small amounts of foundry ash, brick waste, concrete waste and highways planings and site demolition materials are available within the County as possible sources of secondary materials. The MPA will promote and support partnerships between local authorities and the construction industry to utilise waste materials arising from public works. Additionally, Gloucestershire County Council is investigating the feasibility of increasing the use of secondary and recycled materials in County road building and maintenance projects.

SE 1

7.2.4 The strategy for future mineral working in Gloucestershire contained in the Gloucestershire Structure Plan embraces the principles of sustainable development and seeks to reduce the dependency on primary aggregate reserves and resources by encouraging the greater use of secondary (waste) materials from less environmentally damaging sources, as well as the provision of recycling facilities. However, there is currently limited scope for using indigenous secondary (waste) materials as a substitute for limestone and sand and gravel and it should be borne in mind that the use and processing of secondary or recycled materials might have similar environmental impact to the working of primary minerals.

SE 1

7.2.5 The provision of appropriately located importation and distribution facilities for the recycling and re-use of materials is a matter for the emerging Waste Local Plan. However, the MPA recognises that mineral sites may lend themselves to the location of such development. The individual merits of a given site would need to be assessed in order to establish the suitability for either permanent or temporary facilities. Policy SE1 deals with waste minerals or recyclable minerals, not other forms of waste or recyclables.

Policy SE 1

Proposals for the processing or recycling of secondary (waste) minerals, either using such minerals present on the site, or imported to the site, will be permitted where it is environmentally acceptable in accordance with the other policies in this Plan and provided that the long-term beneficial restoration of the site is not prejudiced.

7.2.6 The Government's National Waste Strategy 2000 (parts 1&2) (May 2000) advocates that sustainable development is the basis for future waste management. This includes the objectives of:

SE 2

- To reduce the amount of waste produced; and
- To put to good use any waste created.

Part 2 of Waste Strategy 2000 identifies the decision-making framework, and the role of land use planning and waste management. Regional Planning Guidance Note 10 'Regional Planning Guidance for the South West' (2001) and Planning Policy Guidance Note 10 'Planning and Waste Management' (PPG10) (September 1999) provide guidance about how the landuse system should contribute to sustainable waste management through the provision of required waste management facilities in England. Within this context the Waste Hierarchy [waste minimisation/reduction, re-use, recycling and, as a final option, disposal] has been identified to help achieve those objectives, whereby the waste management methods towards the top of the

hierarchy are considered to represent the more sustainable approach. The Waste Hierarchy is a key aspect of Gloucestershire's Waste Management Strategy, the Structure Plan adopted in November 1999 (Waste Management) and the Waste Local Plan Revised Deposit (April 2001). The MPA supports this strategy and will ensure that future mineral development takes account of this policy framework by ensuring that material previously regarded as mineral waste is put to the best possible use.

Policy SE 2

When considering proposals for future mineral development the Mineral Planning Authority will have regard to the need to reduce mineral waste materials and will require the use of any waste and/or low grade material arising from mineral operations for:

1. **on site development [eg. landscaping, site roads improvements and restoration]; then**
2. **construction purposes to substitute for primary materials wherever environmentally and technically acceptable.**

7.3 Safeguarding Mineral Resources

7.3.1 Minerals constitute a valuable but finite resource, which can only be worked where they occur. **SE3** The MLP has an important role in safeguarding mineral deposits, which are of actual or potential economic utility, from unnecessary sterilisation, either directly or indirectly, by surface development [e.g. housing].

7.3.2 Policy M6 of the Structure Plan Second Review seeks to prevent incompatible development **SE3** taking place in areas of mineral resource where it might prejudice options for their future development. Any consideration of overriding need for appropriate non-mineral development must be viewed in the context of whether the latter is likely to permanently sterilise the affected mineral deposits.

Policy SE3

The Mineral Planning Authority will object to any development proposals within, or adjacent to, areas of potential mineral resource which would unnecessarily prevent, or prejudice, potential future mineral extraction unless it is satisfied that the land affected:

1. **does not contain potentially workable mineral deposits,**
2. **there is an overriding need for the development,**
3. **the mineral cannot practically be extracted in advance, and**
4. **the extraction of the mineral is not in accordance with all other policies within this Plan.**

7.3.3 In some cases, however, it may be essential for development to be located on land, which is **SE4** potentially mineral-bearing. Where this happens the mineral should be extracted in advance of development if this is practical, subject always to the other policies of the Plan and bearing in mind the need not to unnecessarily or unreasonably delay or prevent altogether appropriate non-mineral development.

Policy SE4

Proposals for mineral extraction prior to other types of development that may otherwise sterilise potential mineral resources will be permitted only where, it would not prejudice the development of the land and would take place within a reasonable timescale in relation to the proposed non-mineral development.

7.4 Mineral Consultation Areas

7.4.1 A measure of safeguarding can be achieved by identifying Mineral Consultation Areas (MCAs). Paragraph 7 (3)(c) of Schedule 1 to the Town and Country Planning Act 1990 requires a District Planning Authority to consult the County Planning Authority for its area before determining any application for planning permission, for the carrying out of any development of land in an area which the County Planning Authority have notified to the District Planning Authority, in writing, as an area in which development is likely to affect or be affected by the winning and working of minerals other than coal. In determining any such application the District Planning Authority shall take into account any representations duly made by the County Planning Authority.

7.4.2 In 1981 the MPA drew up a MCA to safeguard the sand and gravel resources of the Upper Thames Valley. The area so defined was based upon the distribution of sand and gravel identified by the Minerals Assessment Unit of the then Institute of Geological Sciences (IGS). Elsewhere in the County MCAs will be defined, to both physically safeguard mineral resources and to ensure non-mineral development is not located where it could affect or be affected by mineral-related development. The extent of the deposits to be safeguarded will be informed by the work carried out on mineral resources for the preparation of the Plan and by the policies which seek to protect local amenity.

7.4.3 An MCA does not create a commitment to grant planning permission for the winning and working of minerals, nor is there any implication or presumption that working is likely to be approved in such areas. MCAs do not take account of planning constraints and the MPA would not expect mineral working applications for sites in MCAs to come forward during the Plan period, unless they are also designated Preferred Areas, Areas of Search, or fall within the scope of relevant supply policies of the Plan. Appropriate MCAs will be defined to safeguard those areas of the County which are likely to have potential for the exploitation of underlying mineral resources.

Chapter 8
RECLAMATION OF WORKED OUT MINERAL SITES

Sustainable Development Objectives:

- *Protect the water environment,*
- *Protect and/or recreate wildlife habitats and species,*
- *Protect and enhance national, regional and local biodiversity,*
- *Ensure that the best & most versatile agricultural land is protected,*
- *Protect and enhance local amenity,*
- *Recognise the direct and indirect economic benefit generated by mineral development,*
- *Ensure that worked out mineral sites are beneficially reclaimed and will enhance the environment.*

SUMMARY OF POLICIES		
Policy No.	**Subject**	**Structure Plan Policies [See Appendix B]**
R1	Beneficial Reclamation of Worked-Out Mineral Sites	M4
R2	After-use	M4
R3	Progressive Restoration	M4
R4	Enhancing Worked-Out Mineral Sites	M4

8.1 Introduction

8.1.1 Mineral working is not considered a permanent use of land. Although inevitably it can alter the nature of the landscape and can effect the amenity of the surrounding area, opportunities may arise to enhance the environment of Gloucestershire by successful reclamation of worked-out mineral sites.* The Development Control Criteria of this Plan requires the matter of reclamation to be considered at the earliest possible stage of proposals for mineral development to ensure that a realistic and beneficial after-use may be secured. In accordance with the principles of sustainable development the Mineral Planning Authority [MPA] will seek opportunities to improve the environment by successful reclamation proposals, for example by restoring derelict or degraded areas, creating habitats, improving access to the countryside and providing amenities for local people.

8.1.2 An integral part of the Gloucestershire Structure Plan mineral strategy involves the proper reclamation of worked-out mineral sites to a beneficial after-use.

8.1.3 The policies in this Chapter provide a framework for the consideration of site reclamation for all future mineral development in Gloucestershire. It also provides a context to assist with the Review of Old Minerals Permissions and the periodic review of all mineral sites introduced under the Environment Act 1995.

* Reclamation is defined under the Town and Country Planning Act 1990 as including restoration and aftercare. All these terms are defined in the Glossary (See Appendix C1)

8.2. Beneficial Reclamation of Worked-Out Mineral Sites

8.2.1 R1 The MPA will require reclamation proposals at the application stage of mineral development and where appropriate within the context of an environmental assessment. In accordance with national policy guidance, if reclamation schemes are in any way unsatisfactory the MPA will not permit the mineral development. Conditions will be attached to grants of planning permission and where appropriate planning obligations will be sought to ensure acceptable reclamation schemes are properly implemented within a specified period. The MPA will require mineral operators to work the site in order to facilitate the desired after-use, ensuring that the operational stage of development is linked with the reclamation proposal for the site.

8.2.2 R1 The Town and Country Planning Act 1990 [as amended] places a maximum five year aftercare duty on mineral operators. The MPA has the power to impose an aftercare condition on grants of planning permission to ensure that the site is reclaimed to an appropriate standard, to achieve agriculture, forestry, nature conservation or amenity after-use, following mineral working. The MPA may seek planning obligations to extend this period in certain circumstances to ensure the site is restored successfully.

8.2.3 R1 There is a range of matters that mineral operators must consider at the application stage of mineral development to ensure that a realistic and acceptable proposal for site reclamation is agreed, for example:

- landscape and ecological character of the site,
- surrounding land-uses and character of the area,
- type of mineral to be worked, conditions of soil, topography etc.
- potential after-use for the site,
- size of mineral development,
- the sensitivity of the site in terms of the water environment,
- the means of funding the restoration.

This Chapter does not provide detailed advice on restoration techniques. However, guidance is available in Mineral Planning Guidance Note 7 "The Reclamation of Mineral Workings" [MPG7]. In addition, publications produced by such bodies as the Forestry Commission, English Nature, Environment Agency and Ministry of Agriculture, Fisheries and Food contain relevant advice.

Policy R1

Proposals for mineral development will only be permitted if they are accompanied by a reclamation scheme that provides for the following matters to be taken into account:

1. **the site will be operated to ensure that the proposed reclamation scheme will be successful,**
2. **waste materials arising from the extraction of minerals on site are utilised to restore the site,**
3. **the restoration is completed at the earliest opportunity and, where practicable, progressive restoration is carried out,**
4. **other measures to minimise the disturbance to adjacent land-uses are included,**
5. **harm arising from traffic generated by the reclamation is minimised,**
6. **the surrounding topography is considered to ensure that the site is sensitively reclaimed in keeping with the character of the local area,**
7. **where appropriate, measures to protect local, regional and national sites of acknowledged importance are included, and**
8. **the reclamation of the site provides for environmental and landscape enhancement as guided by Policy R2 of this Plan.**

8.3 After-use

8.3.1 It is essential to indicate in principle in reclamation schemes the nature of the proposed after-use. There are a number of factors that will influence the after-use. When determining the benefit and acceptability of an after-use, the MPA will be guided by other local plans, relevant statutory consultees and other forms of advice which identifies how best to enhance the environment to achieve maximum benefit for the local community. For example, Rural White Paper, Local Biodiversity Action Plans and UK Sustainable Development Strategy. The individual merits of the particular site, including the previous land-use, type and method of mineral extraction, highways and surrounding land-uses will assist in determining an appropriate after-use.

R2

8.3.2 There is a range of possible after-uses, which may be considered appropriate when mineral development has ceased, including:

R2

- Agriculture,
- Forestry,
- Amenity Use [including, recreation, access to the countryside],
- Nature Conservation,
- Waste Management: re-use, recovery, recycling and disposal [this matter will be considered in detail in the Waste Local Plan],
- Multipurpose i.e. a combinations of after-uses.

8.3.3 The MPA recognises that use of inert fill material* may be necessary to successfully reclaim some mineral sites to a beneficial after-use. Within Gloucestershire there has been a significant shortage of such materials. The MPA in its consideration of mineral proposals, will take into account the availability of any inert fill materials, which would be required to achieve the restoration of the site, as well as the possible negative impacts on local amenity arising from the importation of such materials.

R2

8.3.4 Agricultural land that is graded best and most versatile prior to mineral development should, in most cases, be reclaimed to a similar grade in accordance with national guidance, to protect that national resource. The sand and gravel resources of the Upper Thames Valley underlie high-grade agricultural land often with a high water table. Here low level restoration may be the only satisfactory means of restoring the area back to agriculture. The MPA recognises the technical possibilities of low level restoration but remains concerned about the "in perpetuity" discharge of the long-term maintenance obligation of the land. It may be appropriate to seek planning obligations in order to resolve this matter.

R2

8.3.5 The MPA will be guided by the Waste Management Strategy and the emerging Gloucestershire Waste Local Plan as to the suitability of mineral sites for the disposal of controlled wastes. This will take into account sustainable approaches to integrate waste management and the likely reduction of future waste disposal to landfill of mineral voids. Generally, after-use proposals involving waste disposal to landfill will need to be considered against the policies and proposals in the Waste Local Plan. However, worked out mineral sites may offer an opportunity to support alternative ways of dealing with waste materials, for example, recycling and waste recovery. The impact on the local amenity arising from such development would need to be assessed. If a negative impact were likely this would not be an acceptable after-use.

R2

8.3.6 Worked-out mineral sites often have the potential for the creation of wildlife habitats and or regionally important geological and geomorphologic sites [RIGs]. A range of nature conservation after-uses may be considered appropriate, depending on the nature and location of the mineral development and its juxtaposition to adjacent wildlife habitats. When considering proposals for nature conservation after-use, the MPA will be guided by the emerging Local Biodiversity Action Plan for Gloucestershire, and the Cotswold Water Park Biodiversity Action

R2

* Waste which will not biodegrade or decompose (or will only do so at a slow rate). Types of materials include uncontaminated top soil; subsoil; clay; sand; brickwork; stone; silica; and glass.

Plan, which identify the type of habitats that are appropriate to create or recreate within Gloucestershire. In addition, the MPA support the view of English Nature, that mineral development in the Upper Thames Valley has the potential to contribute to the National Biodiversity Action Plan target for the creation of reed bed and neutral grassland habitats. Proposals that contribute to the creation of these habitats will be encouraged, in particular the creation of 3 large reed beds [10 to 20 hectares in size] and 200 hectares of lowland wet grassland, as indicated in the Cotswold Water Park Biodiversity Action Plan 1997 – 2007. Additionally, the MPA recognises that worked out mineral sites may be of geological importance providing interesting and educational geological and geomorphologic features which should be maintained.

8.3.7 The MPA recognises that multi-purpose use of a site may be more beneficial than a single use. For example, forestry can be used to produce a crop of timber and can also accommodate a number of other land-uses such as recreational activities and nature conservation. Where appropriate, multi-purpose after-use will be favoured to maximise the benefit to the environment and local communities.

R2

8.3.8 The MPA is aware of the cumulative impact that mineral development can have on the environment and the opportunities which this may present. For instance mineral development in the Upper Thames sand and gravel resource area has created the largest inland area of water in England. Consideration should be given to the impact on water resources and river flows of the creation of extensive areas of open water, which may significantly increase water loss by evaporation. The MPA will work with all interested parties in the resource area, including the Cotswolds District Council, the Cotswolds Water Park Joint Committee, the Cotswold Water Park Society, Statutory consultees and where appropriate adjacent authorities to ensure any proposal for after-use is consistent with the development "vision" and development plan strategies for the area.

R2

Policy R2

Mineral operators will be required to facilitate realistic proposals for after-use as part of the reclamation scheme. Proposals will, where appropriate:

1. **enhance the local character of the area,**
2. **benefit the local community,**
3. **support and diversify the local economy,**
4. **improve the local environment by providing increased public access to the countryside and recreation and creating public open space,**
5. **support and enhance national, regional and local biodiversity,**
6. **restore best and most versatile agricultural land back to grade,**
7. **be innovative.**

All after-use proposals must be acceptable in terms of traffic impact, both on the highway and on local communities.

8.3.9 The MPA is aware that over the life of the mineral development preferred after-uses and approaches to restoration may change. The MPA is prepared to review the suitability of the reclamation proposal if it is considered appropriate.*

* The local planning authority (District or Borough) will be responsible for determining any planning application required to implement any subsequent after-use of a reclaimed site after the requirements of the mineral permission have been satisfactorily completed and formally discharged (MPG 7)

8.4 Progressive Restoration

8.4.1 R3 Reclaiming sites at the earliest opportunity reflects national guidance as stated in MPG7 and is in accordance with the principles of sustainable development. Techniques and approaches to restoration are constantly improving and now allow the consideration of progressive restoration in many more mineral sites than was previously possible. Progressive restoration limits the area taken for mineral development ensuring that worked out phases are restored as new phases are worked. The MPA promotes progressive restoration techniques, as it minimises the impact mineral development has on the environment, limits the area disturbed and improves chances for successful reclamation.

Policy R3

Worked out mineral sites will be reclaimed at the earliest opportunity to an approved beneficial after-use, and wherever practicable progressive restoration will be required.

8.5 Enhancing Worked Out Mineral Sites

8.5.1 R4 In the past, reclamation of worked-out mineral sites have not always achieved the high environmental quality that should be secured on a new permission for mineral working. The MPA will support proposals to improve those mineral sites, which have been restored in an unsatisfactory manner, for example, by reducing the visual impact, improving the landscape impact, creating habitats and opportunities for biodiversity, and resolving problems with pollution and drainage. This may require permitting limited working of the mineral, but only if a significant environmental improvement is secured. The importation of restoration materials, including waste, will not be encouraged by the MPA, and will only be considered in exceptional circumstances. In all cases, improved reclamation schemes will only be approved if the benefits derived are greater than the disturbance caused to local amenity and the environment by the proposals.

Policy R4

Reclamation proposals, which will significantly enhance the environment of worked-out mineral sites that have not been reclaimed to a standard satisfactory to the Minerals Planning Authority will be permitted, where the proposal accords with all other relevant policies of this Plan.

Chapter 9
DEVELOPMENT CONTROL CRITERIA

Sustainable Development Objectives:

- *Protect the water environment,*
- *Protect and/or recreate wildlife habitats and species,*
- *Protect and enhance national, regional and local biodiversity,*
- *Ensure that the best & most versatile agricultural land is protected,*
- *Protect and/or enhance local landscapes & built heritage,*
- *Protect archaeological sites and the historic environment,*
- *Protect and enhance local amenity,*
- *Develop an appropriate transport system for the movement of minerals,*
- *Recognise the direct and indirect economic costs and benefits generated by mineral development.*

SUMMARY OF POLICIES		
Policy No.	**Subject**	**Structure Plan Policies [See Appendix B]**
DC1	Mitigation of Environmental Effects	M4
DC2	Ancillary Development	M4
DC3	Importation of Material	M4
DC4	Safeguarding Aerodromes	
DC5	Planning Obligations	M4
DC6	Planning Obligations – Eastern Spine Road	
DC7	Borrow Pits	

9.1. Introduction

9.1.1. Mineral Planning Guidance Note 1 "General Consideration and The Development Plan System" [MPG1] states that local plans should set out criteria against which applications for future mineral development will be considered. The Development Control Criteria provides guidance on the contents of an application and indicates how the Minerals Planning Authority [MPA] will consider specific matters in the determination of proposed mineral development. It should be viewed in conjunction with the other policies as well as the individual inset maps and proposals for the Preferred Areas contained in the Minerals Local Plan [MLP].

9.2 Control of Environmental Impacts of Mineral Development

9.2.1. MPG1 requires local plans to include policies which ensure mineral proposals do not have an unacceptably adverse impact on the environment. Negative impacts arising from mineral sites may include noise, dust, effects of blasting, traffic, landscape and visual impact. Additionally, in the interest of sustainable development the MPA will seek to ensure that any potential pollution [noise, water, air and light] arising from mineral development is fully considered at the application stage. The MPA will ensure that all such impacts are carefully controlled and minimised. Further, in accordance with Planning Policy Guidance Note 23 "Planning and Pollution Control" [PPG23], the MPA will ensure that the potentially polluting aspects of

DC1

mineral development on the local environment are fully considered and mitigated. The MPA considers it imperative that any potential developer identifies areas of environmental and pollution effects in a planning application in order that the MPA can consider these aspects in consultation with relevant pollution control agencies such as the Environment Agency. The MPA does not, however, seek to duplicate the licensing or other controls exercised by those agencies.

9.2.2 Mineral development can generate significant levels of noise, which may adversely affect the amenity of neighbouring land-uses. Such effects should be minimised and monitored carefully. Planning Policy Guidance Note 24 "Planning and Noise" [PPG24] indicates that local planning authorities should adopt policies which seek to avoid potentially noisy developments in areas which have remained relatively undisturbed by noise nuisance and are prized for their recreational and amenity value for this reason. In cases where it is particularly difficult to separate such land-uses the MPA will mitigate the noise impact by the attachment of conditions or by planning obligation. Assessment of noise arising from mineral development must be in accordance with the advice in Mineral Planning Guidance Note 11 "The Control of Noise at Surface Mineral Working" [MPG11].

DC1

9.2.3 Blasting often gives rise to public concern. The statutory responsibility for the control of blasting lies with the Health and Safety Executive [H.S.E]. The MPA will, however, ensure by means of conditions that adequate controls are imposed to warn the public, to limit ground vibration and overpressure and to prevent flyrock [as guided by the H.S.E]. The MPA will require the mineral operator to adhere to good practice when using explosives; for example, by ensuring staff training in accordance with the Quarries [Explosives] Regulations 1988.

DC1

9.2.4 Lighting schemes for mineral workings are essential both for security and safety reasons. The provision of lighting also allows the extension of available working hours which is particularly relevant in winter months. Light pollution by excessive or intrusive artificial lighting arising from poor design can have a negative impact on local amenity. Insensitive lighting of mineral development not only has a negative impact on the amenity of neighbouring land-use but may be incompatible with the character of most rural areas. The MPA will ensure that full consideration is given to this issue to prevent sky glow, glare and light trespass, which may have a detrimental effect on the character of the countryside.

DC1

9.2.5 Negative effects on the local environment caused by mineral development, may be controlled by attaching conditions to grants of planning permissions. The Development Control Criteria identifies a range of information, which the MPA may require in support of an application for mineral development [See Appendix J]. The MPA will require full details on all matters relating to proposed mineral development necessary for the determination of that proposal. This information will assist in determining the environmental impact of the proposed development. Mineral Planning Guidance Note 2 "Applications, Permission and Conditions" [MPG2] provides advice on matters, which may be considered appropriate to control by conditions. The MPA considers that the following matters of significant importance should be controlled by the imposition of planning conditions, where that would be necessary and reasonable having regard to the planning permission to be granted:

1 the commencement and duration of the permission,
2 the control of working days and hours,
3 life of mineral working,
4 limits on production and depth of working,
5 phasing of site, soil stripping and storage and work programme,
6 importation of waste materials,
7 restrictions on permitted development rights,
8 control of location, design, size and life of plant,
9 safeguarding sensitive areas and adjacent land-uses,
10 control of noise, dust, blasting, vibration and flyrock,
11 air pollution including the control of emissions into the atmosphere of smoke, fumes and gases,
12 control of lighting on site,

13 safeguarding the water environment,
14 hydrological monitoring,
15 access and highway improvements,
16 traffic restriction, vehicle cleaning and lorry sheeting on leaving the site,
17 safeguarding archaeological remains,
18 enhancing and safeguarding the landscape,
19 safeguarding and creating nature conservation habitats,
20 provision of landscaping,
21 land instability and subsidence,
22 removal of buildings, plant, structures, machinery and hard standings at the end of the life of the development,
23 restoration and five year aftercare duty.

Policy DC1

Mineral development will only be permitted where the applicant has demonstrated, to the satisfaction of the MPA in consultation with other relevant pollution control agencies, that any potentially adverse environmental and/or pollution effects are capable of satisfactory control and/or mitigation, or elimination.

9.3 Control of Ancillary Development to Mineral Working

9.3.1 Ancillary development to mineral working and siting of plant is often required within sites to allow the processing of raw materials. Part 19 of Schedule 2 of the Town and Country Planning [General Permitted Development] Order 1995 permits mineral operators to erect or alter ancillary buildings and plant subject to certain restrictions. Where justified in exceptional circumstances the MPA may restrict such permitted rights. The environmental impact of plant and ancillary development must be fully considered and mitigated.

DC2

Policy DC2

Ancillary development to proposed or permitted mineral development must satisfy the following requirements that:

1. **it is directly related to the extraction of the mineral,**
2. **its design, size and location should, as far as practicable, be in keeping with the character of the surrounding area,**
3. **it does not have a significantly adverse impact on the amenity of adjacent land-uses,**
4. **its life should be limited to that of the mineral working and where appropriate, is dismantled in accordance with the restoration proposal,**
5. **where appropriate it should allow for the processing of secondary (waste) minerals, and**
6. **it is in accordance with other policies contained in this Plan.**

9.4 The Utilisation and Importation of Natural Materials

9.4.1 In accordance with the principles of sustainable development, and in the interest of local environment, mineral waste which arises from mineral development should be utilised within the site for example to assist landscaping, construction of site roads and reclamation schemes. The use of on-site waste materials or low grade aggregate in this way is an efficient use of primary minerals and minimises traffic to and from the site [See Chapter 7]. Additionally, it is

DC3

consistent with MPG1, which states that the utilisation of this material will conserve other sources of primary material. Where insufficient material is available there may be a need to import natural material (for example topsoils, sub soils, low-grade aggregate and secondary (waste) minerals) to facilitate necessary works as indicated above. Importation of this material will be carefully monitored by the MPA to ensure only appropriate materials are imported.

Policy DC3

The importation of natural materials to mineral sites will only be permitted where it is environmentally acceptable and it can be demonstrated that there is insufficient suitable waste products arising from the mineral development to carry out all or any of the following:

1. **the provision of improved landscaping to enhance the environment and safeguard local amenity,**
2. **the construction of baffle mounds,**
3. **the construction and maintenance of site roads,**
4. **to secure a beneficial afteruse for the worked out mineral site.**
5. **In the case of brickmaking, additional natural minerals which facilitate the utilisation of minerals extracted on the site.**

9.5 Safeguarding Aerodromes

9.5.1 DC4 Unless carefully controlled mineral development can create a hazard to civil or military aerodromes. A number of aerodromes are officially safeguarded on the basis of their importance. Fairford Military Airfield is afforded such protection and is located in the Upper Thames Valley, which is the main resource of sand and gravel in the County. The ODPM Circular 1/2003 'Safeguarding Aerodromes, Technical Sites and Military Explosives Storage Areas: The Town and Country Planning (Safeguarded Aerodromes, Technical Sites and Military Explosives Storage Areas) Direction 2002' came into effect on the 10 February 2003. This replaced the previous 1992 Direction and Circular relating to these issues, its purpose being to ensure that aerodromes, associated technical sites and military explosives storage areas are protected from inappropriate development. This includes the delineation of aerodrome safeguarding maps for which development within such safeguarding areas will require consultation with the operator of that aerodrome or technical site, and that there may be restrictions on the height or detailed design of buildings or structures, or on development which might create a bird hazard. The MPA will therefore ensure that mineral development is not incompatible with adjacent aerodromes and associated areas.

Policy DC4

Mineral development or reclamation proposals for worked out mineral sites, which may pose a hazard to any civilian or military aerodromes will not be permitted.

9.6 Planning Obligations

9.6.1 DC5 Mineral development not only affects the immediate area to be worked but also has impacts on the wider environment. Planning obligations can address such issues, which cannot be resolved by conditions, allowing the development to go ahead where it would otherwise be refused. The nature of mineral development may give rise to a requirement for planning obligations that make provision for highways and access improvements, ensure measures to protect and enhance the local environment and consider any other matters which may arise within a future area of mineral development. Seeking environmental benefits and compensatory measures through

planning obligations is consistent with the MPA's desire to ensure sustainable mineral development in Gloucestershire. However the MPA recognises that benefits derived from planning obligations must directly relate to the proposed development. In this respect, the following tests of Circular 1/97 'Planning Obligations' are met in that where planning obligations are sought they should be:

(i) necessary;
(ii) relevant to planning;
(iii) directly related to the proposed development;
(iv) fairly and reasonably related in scale and kind to the proposed development;
(v) reasonable in all other respects.

9.6.2 Where highways issues arise that might prejudice a proposal for mineral development the MPA will consider entering into planning obligations with mineral operators for the management of traffic on the highways network. This may include the consideration of road maintenance directly related to the development. In 1993 the MPA adopted non-statutory supplementary guidance on seeking mineral operators contribution for road improvements required for hard rock quarries. ("Minerals Operators Contribution to Highways Improvements" – approved by the Environment Committee 1993) This approach will be adopted in the policies of this plan and extended to relate to all types of mineral development.

DC5
DC6

9.6.3 The movement of lorries should be generally restricted to the primary road network. The MPA is aware of the planning control difficulties, which arise when restricting the movement of lorries leaving and visiting mineral sites. However, voluntary or formal agreements may be sought for new mineral working sites to provide for the management of traffic generated. The MPA may also seek the imposition of weight restrictions on particularly vulnerable routes in the network.

DC6
DC6

9.6.4 Mineral working has been carried out for many years in the Upper Thames Valley [Cotswold Water Park]. This has altered the nature of the local environment and has also led in some instances to improvements in the infrastructure, for example the Western Spine Road. However, there is scope for further highways improvement which would benefit local communities and could make further mineral development more acceptable. A scheme for improvements to the Eastern Spine Road was identified as far back as 1990 [The Environment Committee approved revised Eastern Spine Road Improvements in March 2000 - See Appendix G]. The scheme has been subject to amendments over the past few years, and is identified in the Scheme of projects in the Local Transport Plan. The overall approach to this scheme is likely to be reviewed shortly.

DC6

9.6.5 Planning obligations will be considered as a means of mitigating other harmful affects of proposed mineral development. Reasonable measure will be sought to limit or offset the affects of the development on sites of acknowledged nature conservation, landscape or historic importance.

DC5

Policy DC5

The Mineral Planning Authority will seek to enter into planning obligations with mineral operators to mitigate the negative impacts of mineral development which cannot be satisfactorily resolved by conditions attached to planning permissions. The following may be considered appropriate matters, if they fall within the tests of Circular 1/97, for inclusion in a planning obligation where related to the proposal:

1. **highways and access improvement (including maintenance),**
2. **traffic restrictions,**
3. **environmental enhancement [including landscaping, habitat and species protection and creation],**
4. **protection and/or replacement of locally, regionally and nationally important sites of acknowledge importance,**
5. **replacement of important environmental and landscape features,**

6. **protection of local amenity,**
7. **replacement of local community facilities, for example open space, sports and recreation facilities,**
8. **protection of other natural resources, for example, the water environment,**
9. **long-term management and restoration of site, afteruse and monitoring, and/or**
10. **revocation and consolidation of planning permission.**

Policy DC6

The Minerals Planning Authority will seek mineral operator contributions for road improvement if they fall within the tests of Circular 1/97, in proportion to the mineral anticipated to be extracted, where mineral development would generate lorry traffic on the Cotswold Water Park Eastern Spine Road.

9.7 Borrow Pits

9.7.1 Major construction and engineering works, for example, road and rail construction or flood prevention projects may require a significant amount of minerals. The MPA recognises that where possible extraction of the required minerals from borrow pits* near such projects, may minimise the environmental harm of importing materials. However, such proposals could themselves give rise to adverse environmental and amenity effects, which would need to be taken into account when considering proposals. Similar to other types of mineral development the MPA must be satisfied that the site must be reclaimed beneficially. It may be appropriate for the MPA to guide potential contractors in instances of one off large-scale projects within the County.

DC7

Policy DC7

Proposals for temporary borrow pits will be permitted where:

1. **it is required for a specific construction project,**
2. **the proposed site is located in close proximity, preferably contiguous to the specified project,**
3. **it would minimise disruption to local communities,**
4. **the site will be satisfactorily reclaimed on completion of the specified project,**
5. **it can be demonstrated that it will be less environmentally damaging than importing the required material from mineral sites which already have planning permission, and**

it is in accordance with all other policies of this Plan, in particular Environment, Reclamation and Development Control.

9.8 Monitoring, Liaison and Enforcement

9.8.1 Due to the nature of mineral development and the variety of environmental assets within Gloucestershire which need safeguarding, the MPA will seek to ensure that all mineral development is carefully monitored and where necessary the appropriate enforcement action will be carried out. It is in the interest of the mineral operator to work in strict accordance with the planning permission and attached conditions and/or planning agreements and adhere to industry's code of good practice on all matters. This should ensure that formal enforcement

* The term borrow pit is defined in the Glossary of this Plan

action will not often be necessary and the relationship between the mineral operator and the local community is not compromised. The MPA will carry out the appropriate enforcement action in accordance with the provision of the Town and Country Planning Act 1990 as amended.

9.8.2 Circular 10/97 "Enforcing Planning Control: Legislative Provisions and Procedural Requirements" and Planning Policy Guidance Note 18 "Enforcing Planning Control" [PPG18] provide advice on matters relating to the scope for enforcement action which is afforded local planning authorities. "Enforcing Planning Control: Good Practice Guide for Local Planning Authorities" indicates that the MPA should have a policy statement for enforcement matters included in development plans. Gloucestershire County Council has prepared and approved a Planning Enforcement and Monitoring Policy which sets out its approach to those matters in respect of minerals and waste development in the County.

Industry Self Regulation

9.8.3 Monitoring is an important part of the planning process for ensuring that mineral development is undertaken in accordance with the conditions attached to a planning permission. Effective monitoring can provide a means for identifying and averting potential problems before they arise and consequently for minimising the need for enforcement action. It is essential for ensuring good or best practice within the industry, and above all it is essential for fostering a good working relationship between the MPA, local communities and the minerals industry. The County Council's Enforcement and Monitoring Policy identifies its approach to the monitoring of mineral working sites.

9.8.4 Nonetheless monitoring is not simply a matter for the MPA but should also be a primary concern of the industry and individual operator. Baseline monitoring and data are usually required as part of the information submitted with an application for planning permission and in some cases this will form part of an Environmental Assessment. Once undertaken this information should be used as the basis for subsequent monitoring to measure and assess factors such as noise, dust, vibration and traffic. More importantly, it should provide a basis on which operators can monitor their own performance and identify trends which may lead to problems and/or breaches of planning conditions so that these can be effectively addressed before or when they arise. It is the view of the MPA that all responsible operators should adopt such an approach to self-auditing and monitoring. The Government envisages operators using environmental management systems (EMS) to assist operational management to meet both current and future environmental requirements and challenges. The EMS, as introduced in Draft MPG11 'Controlling and Mitigating Environmental Effects of Mineral Extraction in England', should provide a standard and improved view of the organisations environmental performance including the components of ISO standard 14001.

9.8.5 Any future measures introduced surrounding EMS, or self audit by industry, would be in addition to and not replace any monitoring carried out by the MPA. Operators would be advised not to undertake such monitoring until the scope of the work involved had been agreed with the MPA in consultation with other relevant agencies (such as the Environment Agency). This would ensure that their investigations are concentrated in the right areas thus avoiding wasted effort.

Liaison Committees

9.8.6 Where a proposal for mineral development is permitted, a liaison committee provides a useful forum, which ensures that the local community is kept up-to-date on the progress of the site. This also allows constructive discussion on concerns or problems, which occur during the life of the operation so they may be resolved to both the satisfactions' of the local community and the mineral operator. Such measures are in addition to monitoring which will be carried out by the MPA to ensure that the site is worked and restored according to the relevant conditions and any planning obligations. There is currently one liaison committee relating to mineral development in the County. The MPA will encourage such initiatives for other quarries in Gloucestershire.

Chapter 10
INSET MAPS AND PROPOSALS

SUMMARY OF INSET MAPS	
Area Profile Number	**Name of Preferred Area**
1	Stowe Hill/Clearwell
2	Drybrook
3	Stowfield
4	Daglingworth
5	Huntsman's
6	Dryleaze Farm
7	Cerney Wick
8	Horcott/Lady Lamb Farm
9	Kempsford/Whelford

10.1 Introduction

10.1.1 The following area profiles for the Preferred Areas for future mineral development provide detailed information on the possible constraints [mainly environmental] and Proposals which need to be addressed and considered at the application stage of development. Proposals are indicated in **bold text** under the sub-heading "Proposals" with each associated inset map to which they relate. In some cases explanatory information associated with the Proposals is indicated in normal text. The Proposals associated with each Preferred Area are not necessarily comprehensive but must be taken into account by mineral operators at the planning application stage. Applications which do not satisfy the Proposals for each Preferred Area will not be permitted. The Mineral Planning Authority (MPA) will assess whether applicants have successfully met the Proposals for each area in its consideration of the application. Applicants are advised to discuss whether the have met the requirements of the Proposals at an early stage with the MPA. However, the Proposals must be viewed in conjunction with, and should not be seen as replacing, the other policies of this Plan, in particular those policies relating to Development Control and the Environment. Inset Maps showing the extent of each Preferred Area are appended to each area profile. Diagrams Suffix A indicate the location of a range of environmental and other constraints within or adjacent to the Preferred Areas. The diagrams do not form part of the Proposals Map but are intended for advisory and guidance purposes only. Operators are advised to also consult with the Proposals Map of the District Plan relevant to a particular site for further clarification of constraints for example boundaries of Areas of Outstanding Natural Beauty. Where these constraints relate to particular Policies this is indicated in the environmental constraints table relating to each site. Some delineation's indicated on the diagrams relate to important natural features which may not be implicitly recognised in the policies of the Plan, such as ancient semi-natural woodland. In particular applicants are reminded that in all cases they should be mindful of the provisions of the Environment Agency's publication entitled 'Policy and Practice for the Protection of Groundwater'. The Proposals Map shows the location of each area in the County.

GLOUCESTERSHIRE MINERALS LOCAL PLAN
ENVIRONMENTAL AND OTHER CONSTRAINTS

KEY FOR DIAGRAMS SUFFIX A

1. PRINCIPAL ENVIRONMENTAL CONSTRAINTS

RAMSAR — NOT APPLICABLE

SPECIAL AREA OF CONSERVATION — NOT APPLICABLE

SPECIAL PROTECTION AREA — NOT APPLICABLE

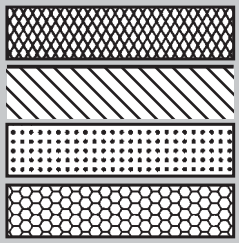
2. PRIMARY ENVIRONMENTAL CONSTRAINTS

SCHEDULED ANCIENT MONUMENT

AREA OF OUTSTANDING NATURAL BEAUTY (AONB)

SITE OF SPECIAL SCIENTIFIC INTEREST (SSSI)

HISTORIC PARK AND GARDEN



3. SECONDARY ENVIRONMENTAL CONSTRAINTS

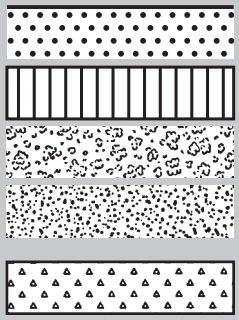
SPECIAL LANDSCAPE AREA (SLA)

KEY WILDLIFE SITE

ANCIENT WOODLAND SITE

ANCIENT SEMI-NATURAL WOODLAND

REGIONALLY IMPORTANT GEOLOGICAL AND GEOMORPHOLOGICAL SITE (RIGS)



4. HIGHWAYS (source: County Lorry Strategy, June 1996)

PREFERRED ROUTE FOR LONG DISTANCE LORRY TRAFFIC

ROUTE OPEN TO LORRY TRAFFIC BUT LONG DISTANCE MOVEMENT NOT ENCOURAGED

5. PUBLIC RIGHTS OF WAY

THAMES PATH NATIONAL TRAIL

POSSIBLE FUTURE ROUTE OF THAMES PATH NATIONAL TRAIL

FOOTPATH

BRIDLEWAY

ROAD USED AS A PUBLIC PATH

6. OTHER CONSTRAINTS

SETTLEMENT PROTECTION BOUNDARY IN THE UPPER THAMES VALLEY SAND AND GRAVEL RESOURCE AREA (as designated in the Upper Thames Policy Review, 1993)

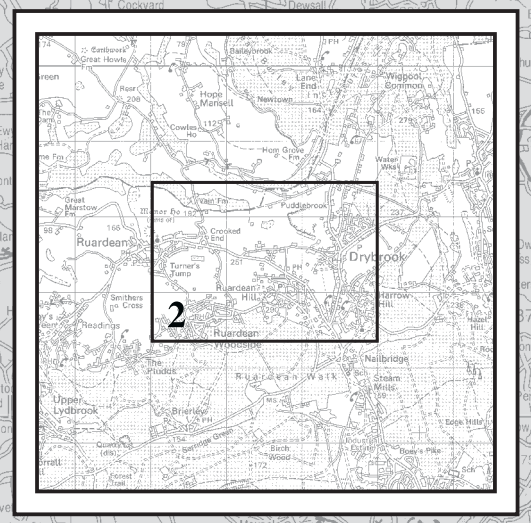
THAMES SEVERN CANAL PROTECTION LINE

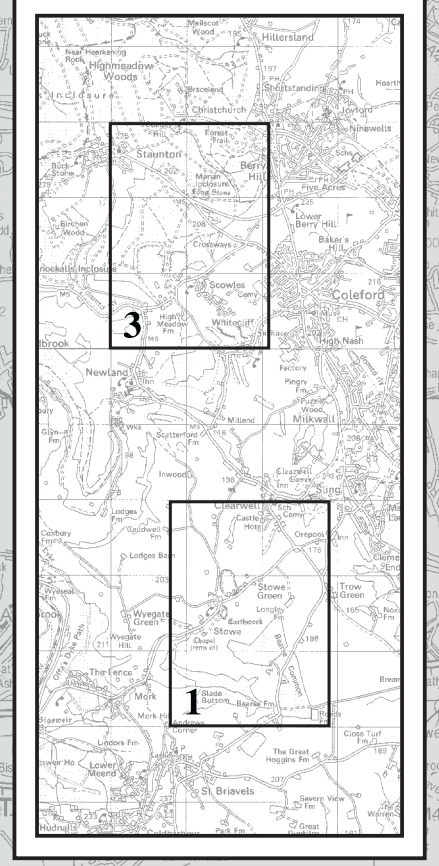
PLEASE NOTE: the list of environmental constraints is not exhaustive and must be viewed in conjunction with the individual proposals and other policies of this Plan.

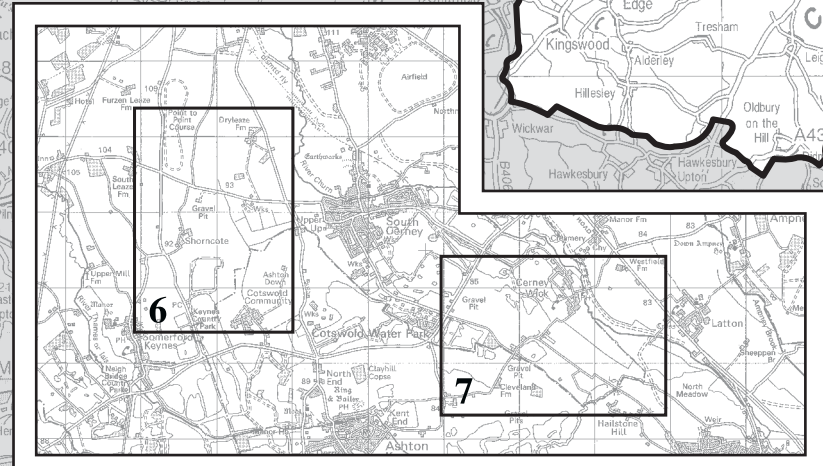
GLOUCESTERSHIRE MINERALS LOCAL PLAN PROPOSALS MAP

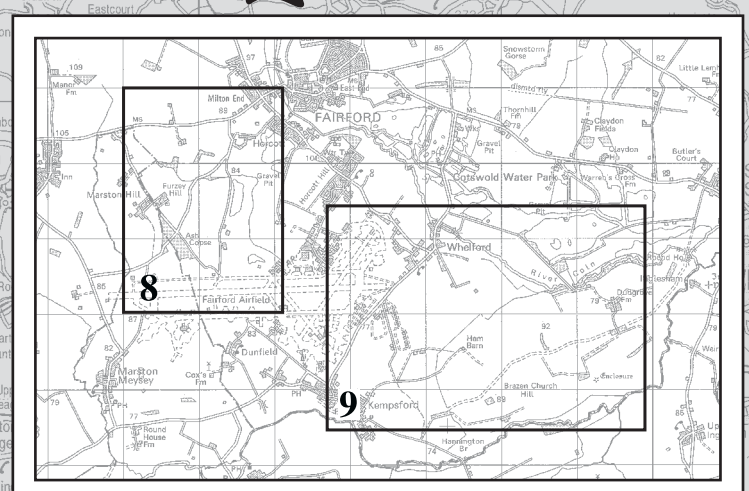
No.	Name of Site		
1	STOWHILL/CLEARWELL	6	DRYLEAZE FARM
2	DRYBROOK	7	CERNEY WICK
3	STOWFIELD	8	HORCOTT / LADY LAMB FARM
4	DAGLINGWORTH	9	KEMPSFORD / WHELFORD
5	HUNTSMANS		

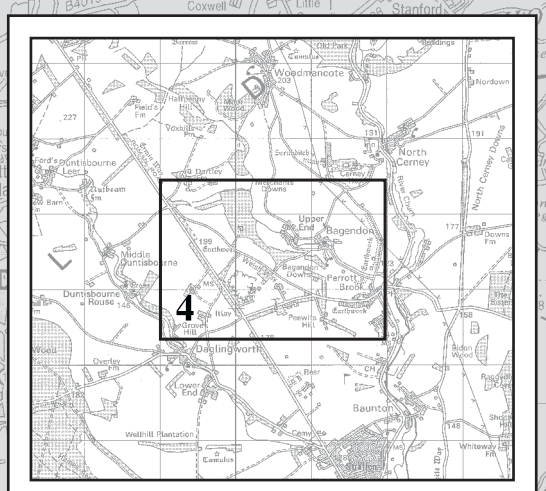
GLOUCESTERSHIRE COUNTY COUNCIL
Environment
GLOUCESTERSHIRE MINERALS LOCAL PLAN 1997-2006

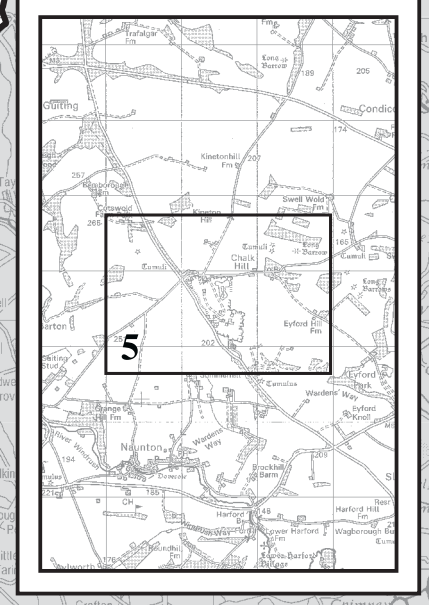












Inset Plan 1
Inset Plan 2
Inset Plan 3
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Inset Plan 7
Inset Plan 8
Inset Plan 9

N

Scale: 1:250,000 and 1:100,000

No. 1 Crushed Rock - Forest of Dean
Stowe Hill/Clearwell Preferred Area

Location:

The area lies 0.5 km south of Clearwell and forms an extension to Stowe Hill and Clearwell Quarries. The area extends from Stowe Hill in the west to Longley farm in the east and is bounded in the south by Orles Wood and to the north by a minor road from the B4228.

Site Description:

The current land use of the area is predominantly arable farmland with bordering woodland. Access to existing quarries is provided by an improved minor road from the B4228.

Grid Reference: SO 50 NE **Site Area:** 40.9hectares

Geological Resource:

The geological resource in the area forms part of an extensive outcrop of massive grey detrital limestone with shale partings, a formation in the Carboniferous Lower Limestone Shales. The existing workings at Stowe Hill and Clearwell Quarries indicate 12 or 14 metres of workable limestone in the area which can be used for a variety of aggregate end uses and also for building stone.

Potential Mineral Yield:

Approximately 8 million tonnes from the Preferred Area. There may be also some additional resources (around 1.75 mt) adjacent to and north of Mork Road, associated with the existing Clearwell Quarry. These resources remain for the longer term subject to technical and environmental suitability.

Type of Proposal:

Extension to existing quarry, for the working of limestone for mainly aggregate purposes.

Planning History:

The existing active quarries of Clearwell and Stowe Hill have had a number of extensions. Stowe Hill Quarry has had some extensions granted on appeal and now has an operational area of 4 hectares, although an extension of 12 hectares (3.27 million tonnes) was approved in 1997 subject to conditions. The quarries now operate as one unit consolidated in this planning permission. A tunnel beneath the road that separates the two quarries has been constructed to serve the 'new' extension to the quarry. Quarrying has ceased in the northern quarry.

ENVIRONMENTAL CONSTRAINTS [See Plan 1A]				
Category of Constraint	**Principal Policy E1**	**Primary Policy E2, – 3,4,5,6,7, 11,12, & 13**	**Secondary Policy E8, 9, 10.**	**Other Policy E14 - 21, DC1 - 6**
Landscape	None	None	Special Landscape Area	Tree Preservation Order: *DF TPO 91, DF TPO 125.*
Nature Conservation	None	Possible Site of Special Scientific Interest (see paragraph on Ecology, for Inset 1)	Gloucestershire Wildlife Trust Key Sites: *Bearse Common/Orles Wood* Regionally Important Geological Sites: *Slade Brook.*	N/A
Archaeology	None	National: *SMR 17610 & 19894.*	Local: *SMR 4391, 5752, 5726, 5727, 5728, 5810, 6488, 6489, 9474, 9748, 10823, 10824, 10825, 10826, 11050, 13698, 17611, 17612, 17613.*	N/A

ENVIRONMENTAL CONSTRAINTS [See Plan 1A]				
Category of Constraint	**Principal Policy E1**	**Primary Policy E2, – 3,4,5,6,7, 11,12, & 13**	**Secondary Policy E8, 9, 10.**	**Other Policy E14 - 21, DC1 - 6**
Historic Built Environment	N/A	Historic Garden: *Clearwell Castle* Listed Buildings: *N^{os} 70-79 Clearwell Castle.* Conservation Area: *Clearwell.*	N/A	N/A
Water Environment	N/A	Groundwater Vulnerability: *Major Aquifer.*	N/A	N/A
Agricultural Land	N/A	*Grade 3a - 28.1ha*	*Grade 4 - 11.8 ha.*	N/A
Highways	N/A	N/A	N/A	Local Highways Network: *Access via minor road to B4231 designated as a route open to lorry traffic but long distance movements not encouraged.*
Public Access	N/A	N/A	N/A	Public Rights of Way: *N^{o} 67, N^{o} 66, No68 abuts the boundary*
Local Amenity	N/A	N/A	N/A	Settlements/Properties: *Stowe – 20 individual properties on access road, Clearwell Castle, Longley Farm.*
Tourism and Recreation	N/A	N/A	N/A	Tourist Facility: *Clearwell Castle.*

Proposals:

- **Agriculture -** The site includes 28.1 hectares of grade 3a land. The working would be relatively shallow and therefore it could be possible to restore it satisfactorily back to agriculture at a lower level (DEFRA). **Proposals for mineral working should aim to restore land satisfactorily back to agricultural use.**

- **Archaeology -** Flint finds indicate prehistoric activity. There are earthworks present but the date and significance are unknown. There is potential for the further evidence of medieval activity in this area. **Therefore applications for mineral extraction must be accompanied by an archaeological evaluation to identify fully any archaeological constraints present, and indicate how; either by in situ preservation where appropriate, or by a programme of archaeological investigation for remains of lesser significance, the impact of mineral extraction on the archaeological remains will be mitigated.**

- **Ecology -** The most interesting flora is located at the borders of the existing quarry. The creation of new limestone faces may subsequently be exploited by limestone flora and fauna. Areas of semi-improved grassland could be retained to provide a source of seed and invertebrates for the colonisation of new limestone faces. The retention of bordering hedges and mature trees would provide a sympathetic approach to quarrying. Slade Brook which lies ¾ km south west of Stowe Hill Quarry is designated as a Regionally Important Geological Site. English Nature is currently examining new information which has come to light regarding traventine dams in this area in order to establish whether they merit Site of Special Scientific Interest designation. **Mineral operators will need to identify the impact of the mineral working on this area and identify appropriate mitigating measures if possible. This should be indicated with preliminary hydrological monitoring.**

- **Highways - Mineral operators are requested to discuss arrangements for the improvement of access with the MPA in advance of the submission of a planning application. In particular an improvement to the access via Mork road, between the quarry entrance and the B4228 at Orepool, would be required.**

This may be dependent on future levels of production output from the quarry. An agreement on routing of lorries to and from the quarry via the B4231 would also be needed to protect the amenity of residents of surrounding villages.

- **Hydrology - Mineral operators are required to carry out preliminary hydrological monitoring in advance of the submission of a planning application to ensure that ground and surface water can be safeguarded. The depth and characteristics of the water table needs to be established and no work should be carried out below the water table. If dewatering is required it will be necessary for the operators to agree measures to mitigate against any adverse effect on the water environment.**

- **Landscape - Mineral operators are requested to carry out a full assessment of landscape impact through any extension of mineral working. Landscape impact should be mitigated through the retention of existing hedges and mature trees. Preliminary landscaping and tree planting would be required in advance of mineral operations.**

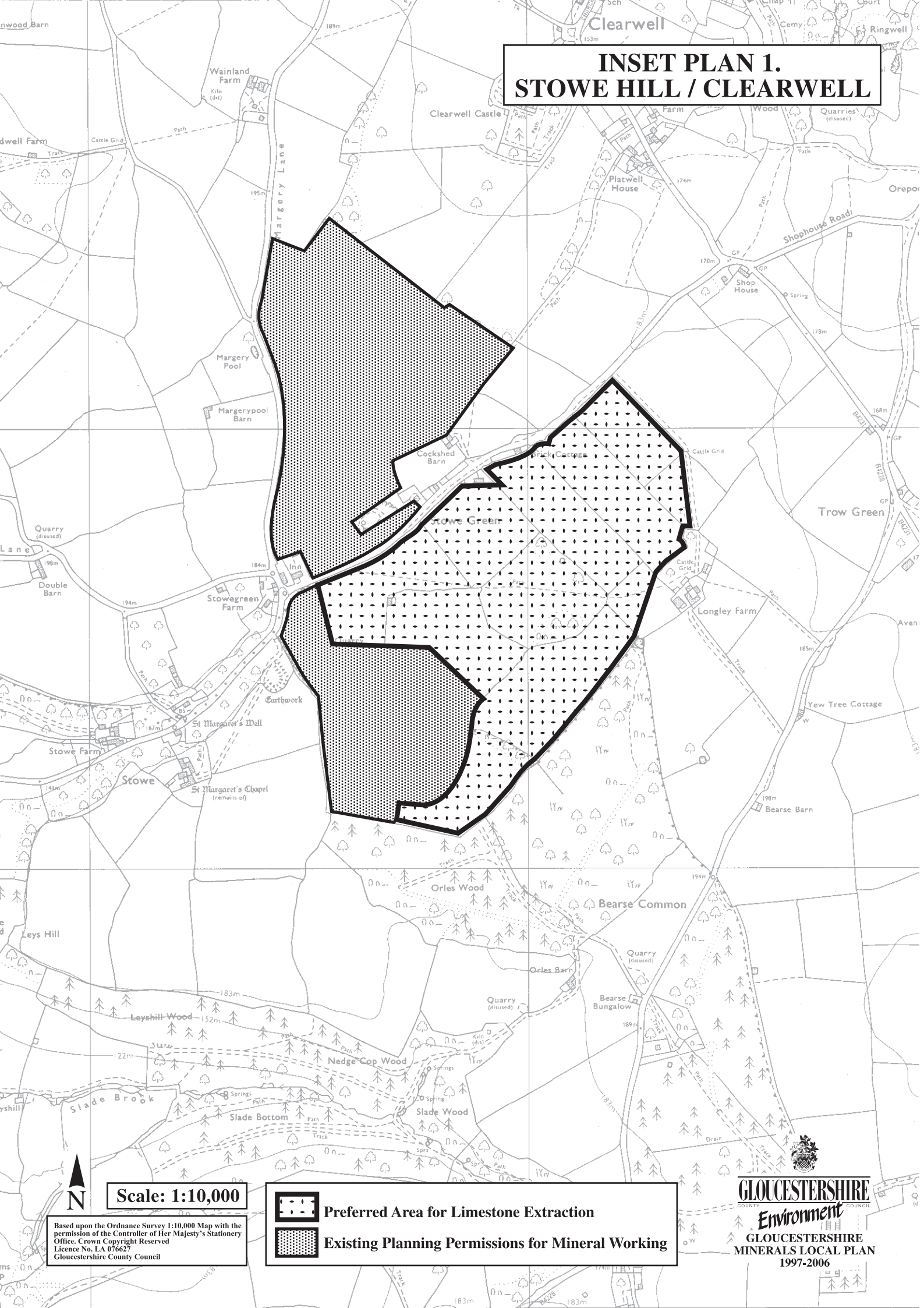
- **Operational Issues - Any proposals for extension of mineral extraction at Stowe Hill Quarry would require all aggregate to be processed through the relocated plant in Clearwell Quarry to the north of Mork Road. All aggregate would be moved from Stowe Quarry through the purpose built tunnel under Mork Road.**

- **Public Rights of Way - Satisfactory arrangements would be required for the diversion of the Public Right of Way.**

- **Restoration - The restoration proposals submitted with any planning application should focus on returning land back to agricultural use at a lower level. There are also some areas of semi-improved grassland which should be retained to provide a source of seed and invertebrates for the colonisation of new limestone faces. The importation of fill material is not currently permitted, and restoration proposals submitted with any application are likely to be treated on the same basis.**

- **Environmental Assessment –** Any proposal for mineral working over the whole Preferred Area which is in excess of 25 ha, would be a Schedule 1 development under Town and Country Planning (Environmental Impact Assessment) Regulations 1999. An Environmental Impact Assessment (EIA) may be required for any lesser proposal for mineral working within the Preferred Area as this would be a Schedule 2 development. Although not within a 'sensitive area' as defined in Regulation 2(1) there is likely to be significant effects on the environment due to the scale and duration of operations and in particular if extraction involves more than 30,000 tonnes per year. **Any proposal for mineral working within the "Preferred Area", over 25 ha will require an EIA. Any proposal for mineral working within the "Preferred Area" less than 25 ha should also be accompanied by an EIA. Subject to the provisions of a 'screening opinion' under the Regulations, an EIA should accompany any major application for mineral working less than 25 ha within the Preferred Area, as development under Schedule 2 likely to have significant effects on the environment.**

INSET PLAN 1.
STOWE HILL / CLEARWELL



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Scale: 1:10,000

Preferred Area for Limestone Extraction

Existing Planning Permissions for Mineral Working

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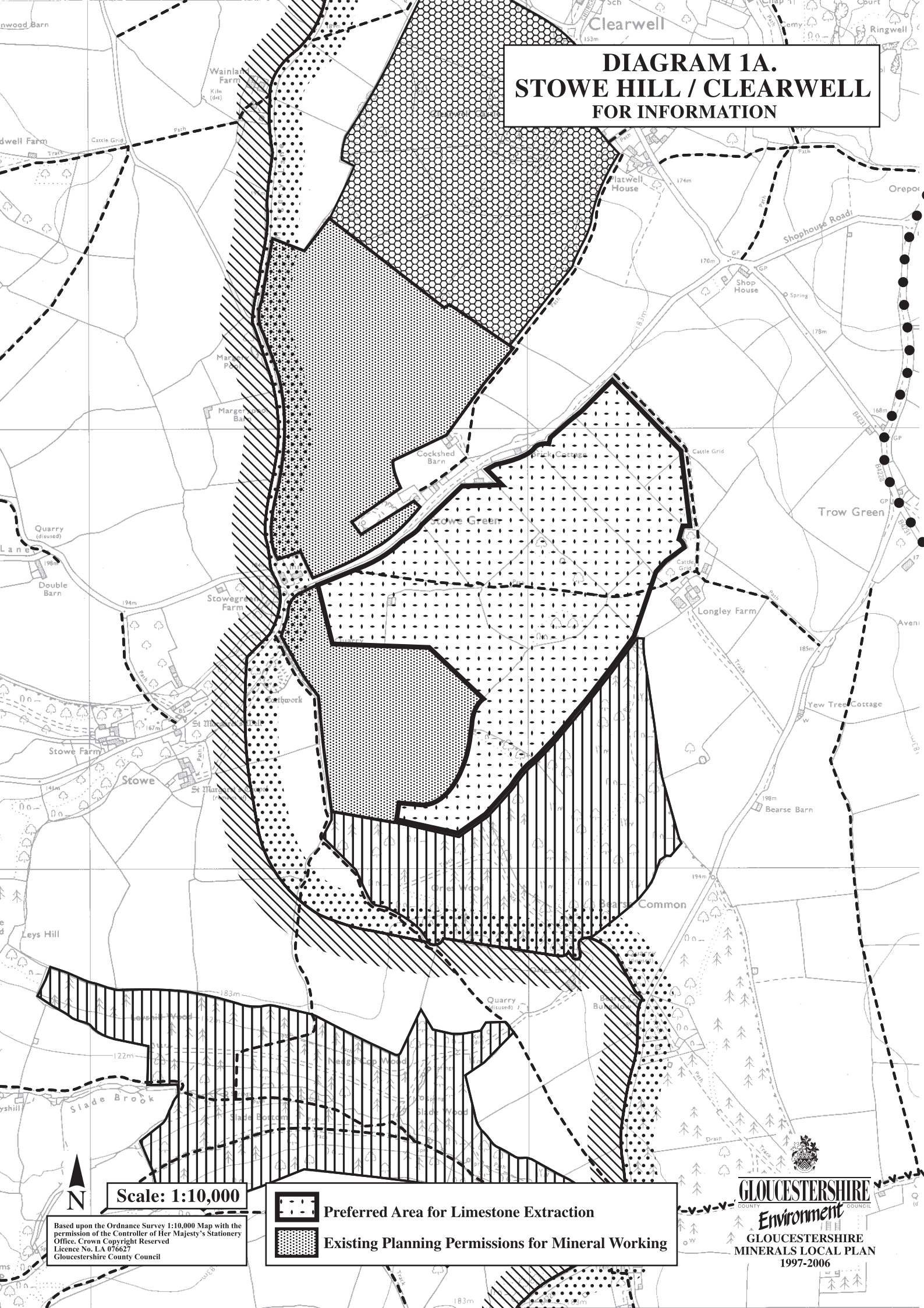
DIAGRAM 1A.
STOWE HILL / CLEARWELL
FOR INFORMATION
Clearwell
Ringwell
Wainlode Farm
Platwell House
Shophouse Road
Shop House
Cockshed Barn
Brick Cottage
Stowe Green
Trow Green
Quarry (disused)
Double Barn
Stowegreen Farm
Longley Farm
Yew Tree Cottage
Bearse Barn
Stowe Farm
Stowe
Leys Hill
Bearse Common
Quarry (disused)
Slade Brook
Scale: 1:10,000
N
Preferred Area for Limestone Extraction
Existing Planning Permissions for Mineral Working
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MINERALS LOCAL PLAN
1997-2006

No. 2 **Crushed Rock - Forest of Dean**
Drybrook Preferred Area

Location:

The area lies 500 metres north west of Drybrook and to the east of Ruardean. It forms an extension to the existing Quarry.

Site Description:

The current land use is predominantly arable farming and a number of properties along Morse Lane lie near to the site.

Grid Reference: SO 641.179 **Site Area:** 11 hectares

Geological Resource:

The area is part of the extensive hillside outcrop of Lower Dolomite that is currently worked at Drybrook Quarry. Survey information has indicated that an extension is technically feasible and between 25 and 75 metres of stone could be worked.

Potential Mineral Yield:

Up to 4.5 million tonnes

Type of Proposal:

Extension to existing limestone quarry.

Planning History:

In recent years a number of permissions have been granted to Drybrook Quarry allowing extensions in depth and area. In 1992 permission was granted on appeal for the extraction of 6 million tonnes of limestone and in 1996 the working hours of the lime crushing plant were changed. The Quarry plant was relocated into the Quarry as part of the appeal decision.

ENVIRONMENTAL CONSTRAINTS [See Plan 2A]				
Category of Constraint	**Principal Policy E1**	**Primary Policy E 2, – 3,4,5,6,7, 11, 12, & 13**	**Secondary Policy E8, 9, 10.**	**Other Policy E14 - 21, DC1 - 6**
Landscape	None	None	Special Landscape Area	
Nature Conservation	None	None	None	N/A
Archaeology	None	National: *SMR 4371, 6834.*	Local: *SMR 5666, 10552.*	N/A
Historic Built Environment	N/A	None	N/A	N/A
Water Environment	N/A	Groundwater Vulnerability: *Major Aquifer.*	N/A	N/A
Agricultural Land	N/A	Agriculture Land Grade: Grade 2 - 78% Grade 3a - 2%	Grade 3b - 20%	N/A

ENVIRONMENTAL CONSTRAINTS [See Plan 2A]				
Category of Constraint	**Principal Policy E1**	**Primary Policy E 2, – 3,4,5,6,7, 11, 12, & 13**	**Secondary Policy E8, 9, 10.**	**Other Policy E14 - 21, DC1 - 6**
Highways	N/A	N/A	N/A	Local Highways Network: *Access via minor road to the A40 to the north and the A4136 to the south both designated as routes open to lorry traffic but long distance movements not encouraged.*
Public Access	N/A	N/A	N/A	Public Rights of Way: *No 10, 11, 43.*
Local Amenity	N/A	N/A	N/A	Settlements/Properties: *Drybrook, Whitehill Farm, Hawthorns Farm, numerous properties on Morse Lane, Ruardean.*
Tourism and Recreation	N/A	N/A	N/A	*None*

Proposals:

- **Agriculture/Ecology/Restoration -** 10 hectares of Grade 2 land adjoins the existing quarry. This land is sloping and sufficiently steep in places to downgrade it to Grade 3b and the incidence of Grade 3b within the Grade 2 may well affect the overall land use The field pattern is relatively small and the surrounding land use is predominantly grass. Restoration back to agriculture is not considered likely**. The site includes a large area of semi-improved grassland and an assessment of grassland diversity patterns should form part of any application. Ecological features should be built into any restoration programme.**

- **Archaeology -** There is little survey information present at this site. **Therefore applications for mineral extraction must be accompanied by an archaeological evaluation to identify fully any archaeological constraints present, and indicate how; either by in situ preservation where appropriate, or by a programme of archaeological investigation for remains of a lesser significance, the impact of mineral extraction on the archaeological remains will be mitigated.**

- **Hydrology - In relation to hydrology, proposals for the extension of mineral working should be carried out in line with all the conditions attached to the planning permission for the existing quarry. In particular no mineral working should take place below the 175 metre (AOD) level and no mineral working should take place below the water table. In addition there should be no breach of the underlying Shale bed.**

- **Highways -** There is concern about the impact of quarry traffic on the residents of Drybrook. An extension to the existing quarry might provide an opportunity for a new highway access which would enable lorries to reach the strategic road network with less impact on Drybrook**. Operators are encouraged to discuss the potential for a new highway access with the MPA at an early stage. In addition, operators should discuss highway improvements and traffic management and mitigation with the MPA prior to the submission of a planning application. If no acceptable alternative access can be found then the rate of production should be maintained at or near to existing levels. A commuted payment for road maintenance would be required.**

- **Landscape -** A stony ridge line runs in an east westerly direction along the face of the existing quarry from a northerly view. The ridge curves in a westerly direction across the northern part of the 'Preferred Area'. The whole face is extremely visible from Drybrook and the surrounding Ruardean area. **Proposals for mineral working would require very careful landscape considerations to mitigate impact. In particular there should be no breaking of the ridge described above and no working on west or north sides of the ridge and substantial landscaping measures should be incorporated in the proposals.**

- **Operational - Any proposals for the extension of mineral extraction at Drybrook Quarry would require that all aggregate should be processed through the relocated plant in the existing quarry. In addition operators should carefully consider ways of minimising the impact of operations such as noise and dust**

on the amenity of local residents bearing in mind the proximity of Drybrook and Ruardean to the existing quarry and Preferred Area.

- **Public Rights of Way - Satisfactory arrangements would be required for the diversion of any Public Rights of Way affected by the extension of mineral workings. Operators should consider the creation of new routes to mitigate the reduction in public access which would result from development of the Preferred Area.**

- **Environmental Assessment –** Any proposal for mineral working in the Preferred Area would not be a Schedule 1 development under Town and Country Planning (Environmental Impact Assessment) Regulations 1999. However an Environmental Impact Assessment (EIA) may be required for any mineral working within the Preferred Area as this would be a Schedule 2 development. Although not affecting a 'sensitive area' as defined in Regulation 2(1) there is likely to be significant effects on the environment due to the scale and duration of operations and in particular if extraction involves more than 30,000 tonnes per year. **Subject to the provisions of a 'screening opinion' under the Regulations, an EIA should accompany any major application for mineral working within the Preferred Area.**

INSET PLAN 2. DRYBROOK

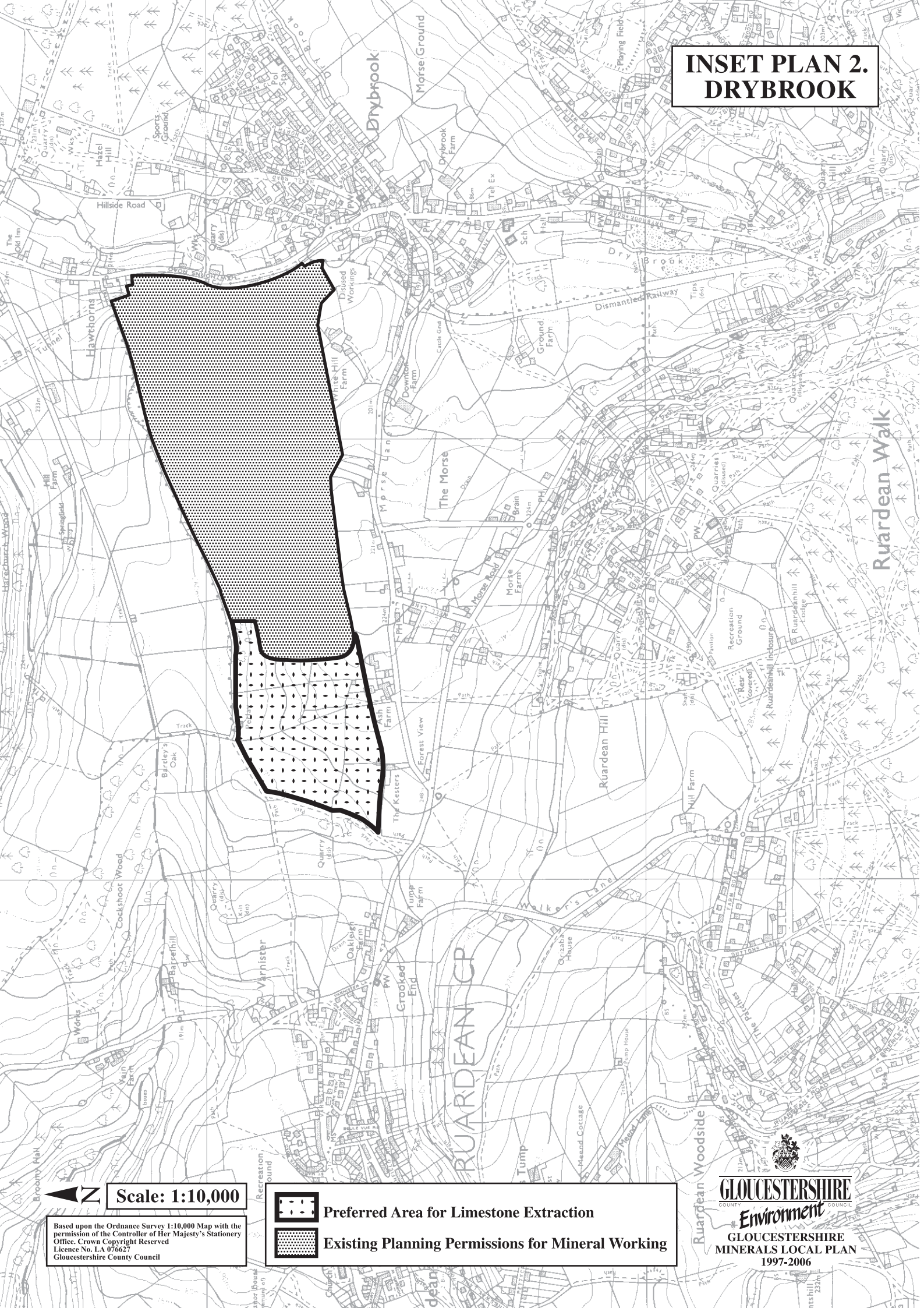

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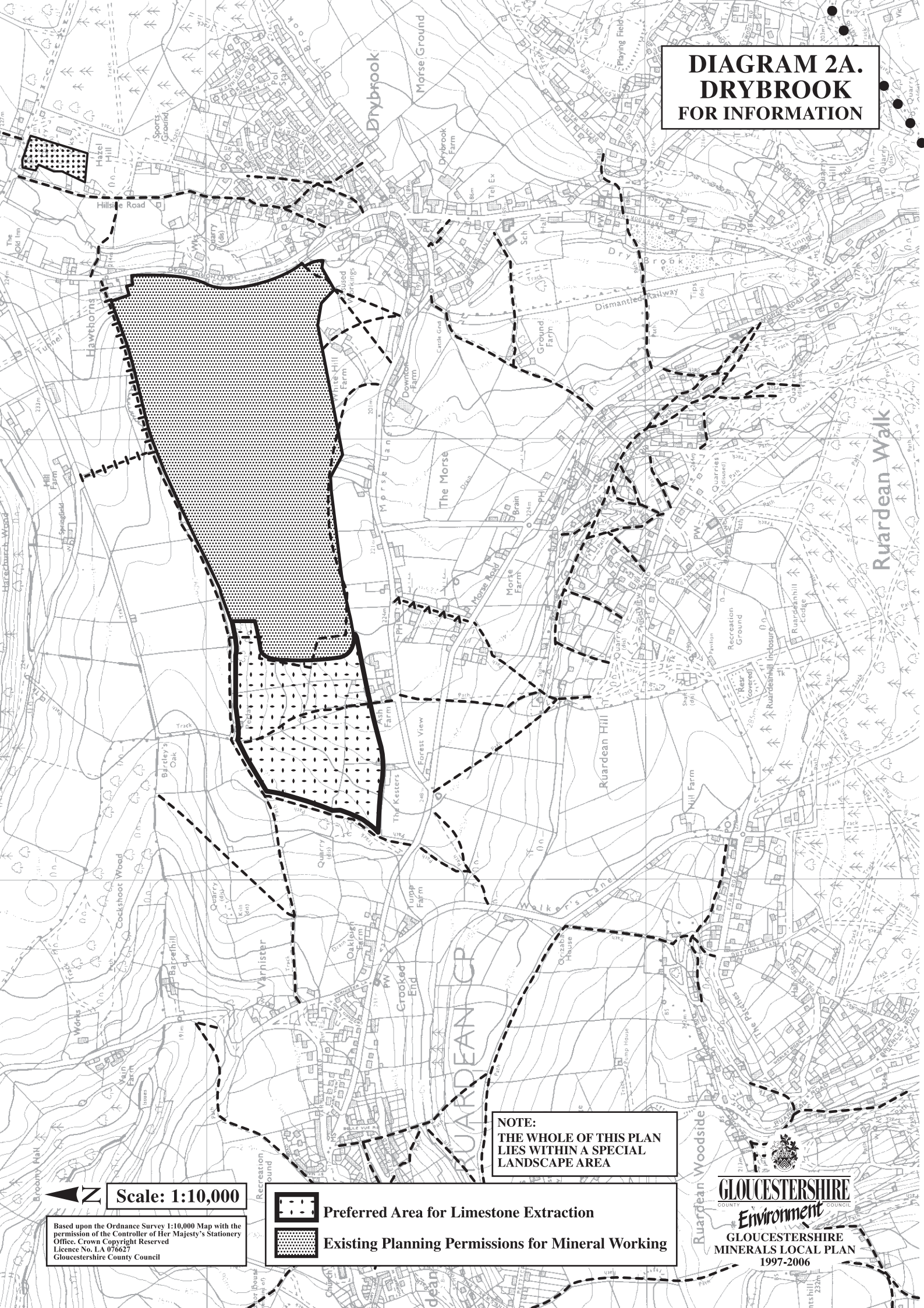
DIAGRAM 2A.
DRYBROOK
FOR INFORMATION



NOTE:
THE WHOLE OF THIS PLAN LIES WITHIN A SPECIAL LANDSCAPE AREA

Scale: 1:10,000

Preferred Area for Limestone Extraction

Existing Planning Permissions for Mineral Working

GLOUCESTERSHIRE COUNTY COUNCIL
Environment

GLOUCESTERSHIRE MINERALS LOCAL PLAN 1997-2006

No. 3 Crushed Rock - Forest of Dean
Stowfield - Preferred Area

Location:

The Preferred Area is located 1 km north west of Coleford and extends towards Staunton in the north. The Preferred Area forms an extension to the existing quarries of Stowfield and Roger's.

Description:

The area is almost entirely woodland which has a new purpose built access from Stowfield Quarry. Stowfield quarry is the largest limestone quarry in the County.

Grid Reference: SO 51 NE **Site Area:** Approx. 14.5 hectares

Geological Resource:

The area is defined on an extensive exposure of Lower Dolomite. The part of the area which extends northwards of the existing quarry which has been investigated, indicate up to 100 metres of good quality stone. It is reasonable to infer that additional resources of Lower Dolomite are also to be found in the land between Roger's and Stowfield quarries**.**

Potential Mineral Yield:

Up to 10.2 million tonnes within all parts of the Preferred Area. In addition the operators at the quarry suggest that a further 7.9 million tonnes may be available below the existing quarry floor (but still within the Lower Dolomite formation) in the northern part of the existing quarry and Preferred Area. Resource availability will be dictated by how successfully operators can mitigate the impact on constraints as outlined in the Proposals (see below).

Type of Proposal:

Extension to existing quarry for the working of limestone for mainly aggregate purposes.

Planning History:

Since 1959 various permissions for quarry extensions and ancillary development have been granted. The last permission in 1996 was for a substantial extension (for an additional 9 million tonnes), creating a quarry of 64 hectares with a new purpose built access.

ENVIRONMENTAL CONSTRAINTS [See Plan 3A]				
Category of Constraint	**Principal Policy E1**	**Primary Policy E 2, – 3,4,5,6,7, 11,12, & 13**	**Secondary Policy E8, 9, 10.**	**Other Policy E14 - 21, DC1 - 6**
Landscape	None	Area of Outstanding Natural Beauty: *Wholly within the Wye Valley AONB.*	None	N/A
Nature Conservation	None	Site of Special Scientific Interest: *Dingle Wood abuts the Area of Search*	Gloucestershire Wildlife Trust Key Sites: *Blakes wood - covers central section of the Area.* Ancient Woodland Site: *Blakes Wood*	N/A

ENVIRONMENTAL CONSTRAINTS [See Plan 3A]				
Category of Constraint	**Principal Policy E1**	**Primary Policy E 2, – 3,4,5,6,7, 11,12, & 13**	**Secondary Policy E8, 9, 10.**	**Other Policy E14 - 21, DC1 - 6**
Archaeology	None	Scheduled Ancient Monument: SMR 20499. National: *SMR 4398, 13916, 13913, 13920, 13949, 13956.*	Local: *SMR 4397, 5099, 5637, 6031, 6043, 6119, 6121, 6126, 6183, 6184, 13923, 13933, 13934, 13935, 13936, 13939, 13945, 13946,13958, 14880).*	N/A
Historic Built Environment	N/A	Conservation Area: *Staunton.* Listed building: *Staunton Church*	N/A	N/A
Water Environment	N/A	Groundwater Vulnerability: *Major Aquifer.*	N/A	N/A
Agricultural Land	N/A	None	None	N/A
Highways	N/A	N/A	N/A	Local Highways Network: *A4136 - designated as route open to lorry traffic but long distance movements not encouraged.*
Public Access	N/A	N/A	N/A	Public Rights of Way: *N^{o} 18 abuts the area.*
Local Amenity	N/A	N/A	N/A	Settlements/Properties: *Church Farm is adjacent to the Area, Scowles, Staunton & High Meadow Farm.*
Tourism and Recreation	N/A	N/A	N/A	Permissive footpath through Blake's Wood.

Proposals:

- **Archaeology -** There are many features identified which relate from earlier industrial exploitation of the landscape. Of particular significance is the evidence of Scowles resulting from the extraction of iron-ore. Survey work commissioned by English Heritage has recommended that all scowles which retain their surface form should be preserved. In particular the scowles in Blakes Wood have been added to the schedule of ancient monuments in June 1999. They should therefore be regarded as areas of national importance. **Future proposals for mineral working should include a full archaeological evaluation. In particular any mineral working in the area of Blakes Wood should assess the full extent of the scowles. Proposals for mineral working should be developed in such a way so as these scowles are preserved in situ and excluded from any areas proposed for mineral working.**

- **Ecology – Mineral operators will need to take account of the identification of a significant buffer zone to the north of Dingle Wood Site of Special Scientific Interest and are urged to discuss these matters at an early stage with the Mineral Planning Authority and English Nature.** Part of a County Site of Nature Conservation (Blakes Wood) lies within the Area of Search. This is partly semi-natural woodland and partly planted ancient woodland site. **Proposals for mineral working should be developed in such a way which leaves the surface vegetation intact or possibly to take an innovative approach leading to the creation of a landscape similar to that of the nearby Puzzle Wood or some of the ancient scowles, with mineral extraction and restoration continuing contemporaneously.** Mineral operators should be aware that this will require original, long-term scientific work and extensive critical surveys. **With any approach mineral operators will be required to establish the extent and protect any subterranean bat roosts.**

- **Environmental Assessment –**There are a range of primary constraints within the Area of Search which indicate that it is likely that any major proposals for mineral development would fall within Schedule 2 of the Town and County Planning (Environmental Impact Assessment) Regulations 1999. **Any proposal for mineral working within the "Preferred Area" should also be accompanied by an EIA as development under Schedule 2 likely to have significant effects on the environment.**

- **Highways** - Mineral operators are encouraged to discuss at an early stage proposals for traffic management measures on the local highways network. **Quarry traffic movement to and from the quarry should continue via the new access onto the A4136 as part of any proposals to extract minerals from within the 'Preferred Area'.**

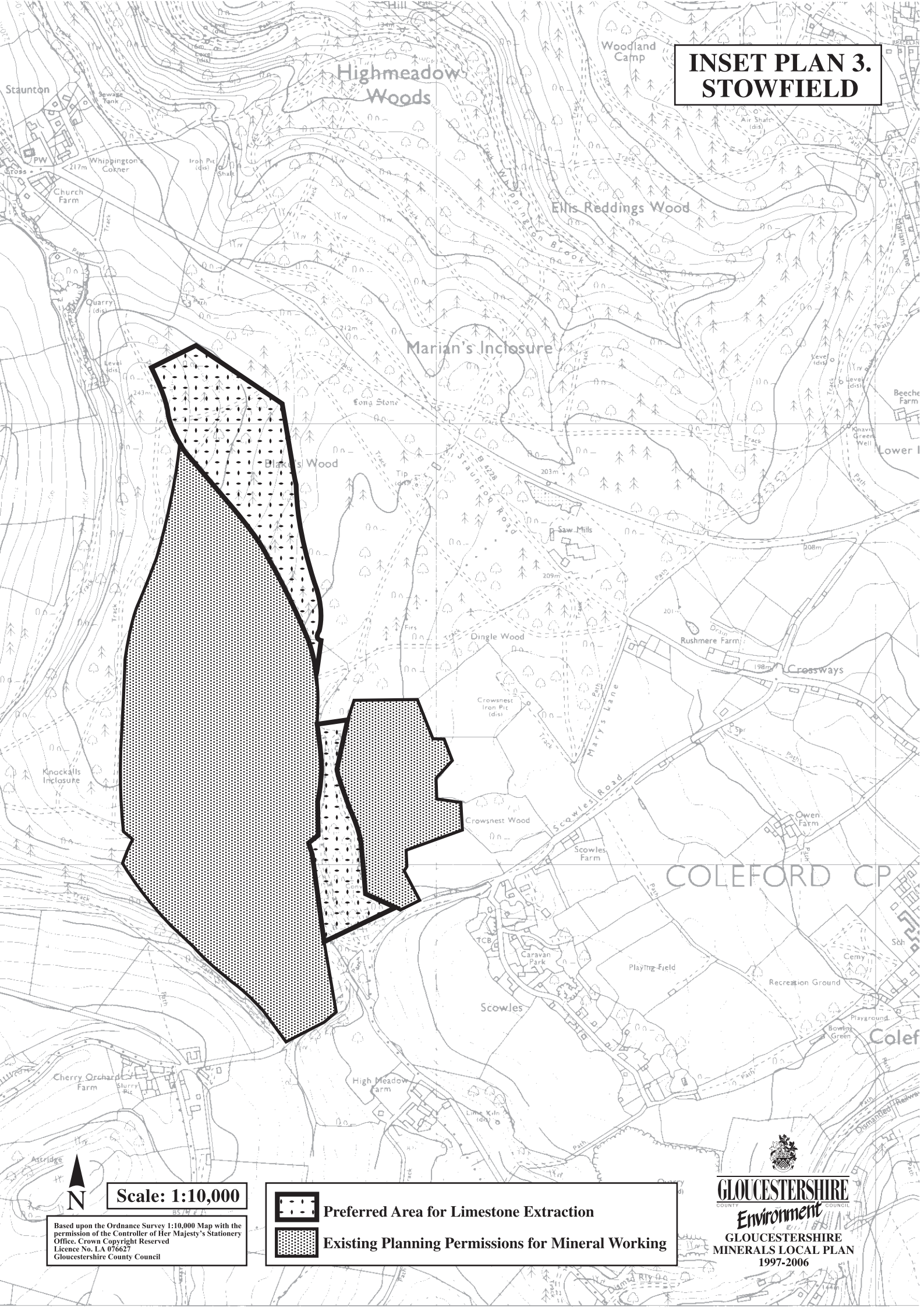
- **Hydrology - There is a large potable groundwater supply at Redbrook which must be protected.** There are also many smaller licensed and unlicensed supplies in the vicinity. Ground conditions in the vicinity of Staunton make septic tank effluent disposal problematical. The result is a layer of sewage effluent below the ground surface around Staunton**. Proposals for mineral working should not breach the clay layer. Any proposals for mineral working would require pre-application monitoring of groundwater conditions. In particular the location of the impermeable base to the Lower Dolomite formation should be ascertained. Proposals for mineral working should not breach this impermeable layer.**

- **Landscape - A detailed landscape assessment and scheme to mitigate landscape impact is required. A substantial screen of trees should be left to the north, east and west of any extension. This should possibly be augmented by internal planted bunding to serve as screening. Any extension in the Preferred Area to the north of the existing quarry must leave the north-south ridge, which runs along the west side of the current permission intact, as it is a major landscape feature of the area.**

- **Operational Issues - Any proposals to extract minerals from within the 'Preferred Area' will require that limestone should be processed through the existing plant. Any new, replacement or temporary plant should be located within a similar part of the quarry.**

- **Restoration - Any proposals for mineral working will require a restoration scheme which should take account of all the issues raised above such as ecology and archaeology. Account should also be taken for the potential for public access.**

INSET PLAN 3. STOWFIELD



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Scale: 1:10,000

Preferred Area for Limestone Extraction

Existing Planning Permissions for Mineral Working

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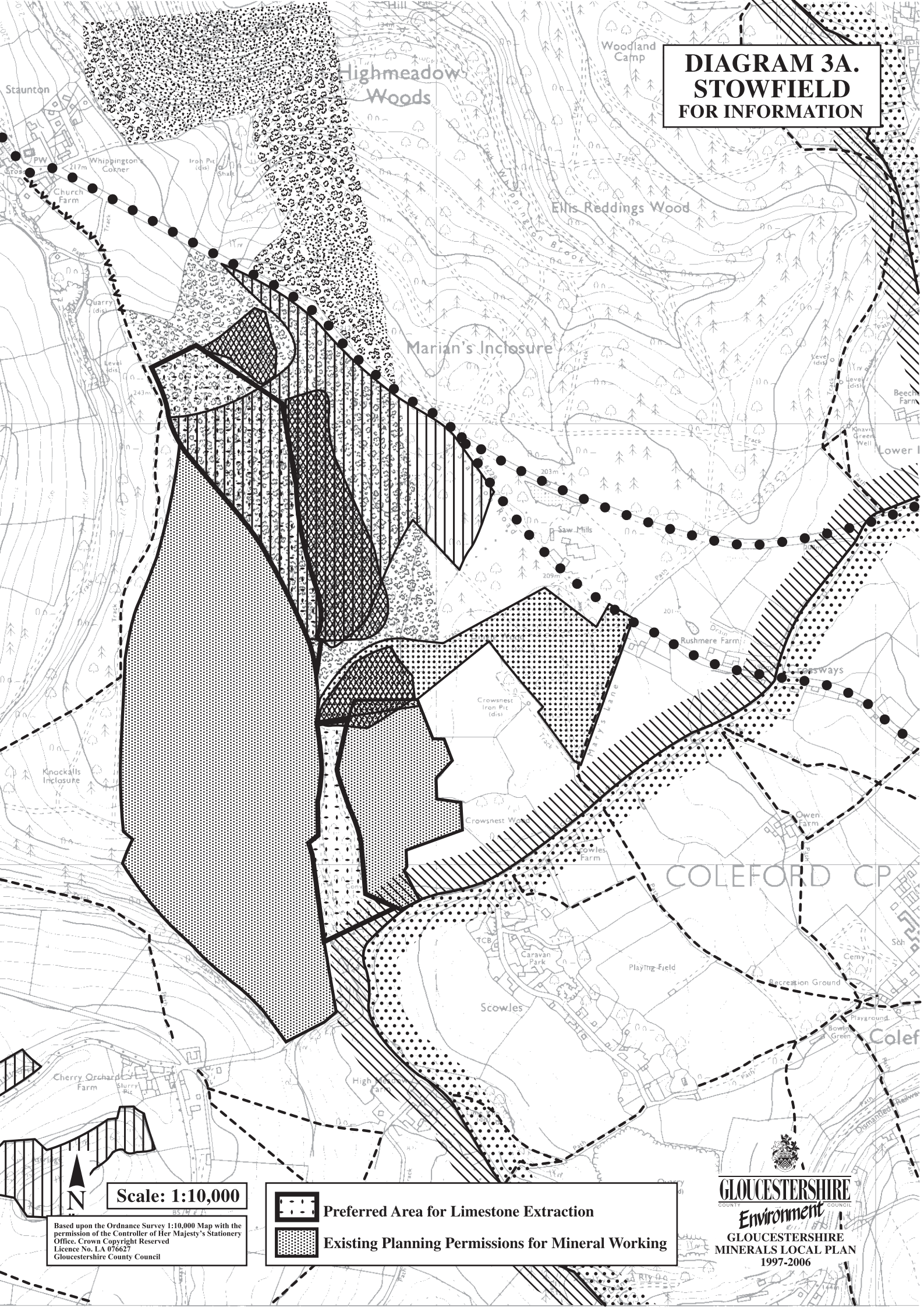
DIAGRAM 3A. STOWFIELD
FOR INFORMATION



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Scale: 1:10,000

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Preferred Area for Limestone Extraction

Existing Planning Permissions for Mineral Working

GLOUCESTERSHIRE COUNTY COUNCIL
Environment

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No. 4 **Crushed Rock - Cotswolds**
Daglingworth - Preferred Area

Location:

The area lies approximately 3.4 km north of Cirencester on the east side of the A417 Gloucester to Cirencester Road. It forms an extension to the north-west edge of the existing Daglingworth Quarry.

Site Description:

The area lies within the Cotswold AONB and is currently used for agricultural purposes. It is bordered by the A417 and a narrow stretch of mature woodland which runs between the existing quarry and the site. Access to the existing quarry is from the improved A417.

Grid Reference: SP 001 062 **Site Area:** 18 hectares

Geological Resource:

The geological resource in the area comprises limestone's of the Great Oolite Group which lie above the Fullers Earth Clay to a depth of about 30 metres. It is also believed that considerable workable limestone lies beneath this level.

Potential Mineral Yield:

Approximately 9 million tonnes.

Type of Proposal:

Extension to existing quarry, for the working of limestone for mainly aggregate purposes.

Planning History:

Daglingworth Quarry has been worked since 1947 when Planning permission was first granted for continuance of quarrying. Since then there have been numerous permissions allowing extensions to the quarry and the erection of ancillary plant. The latter was replaced in 1988 and the existing quarry now covers an area of approximately 26 hectares. There is a brick making plant (ARC/Powell Duffryn) not working at present time.

ENVIRONMENTAL CONSTRAINTS [See Plan 4A]				
Category of Constraint	**Principal Policy E1**	**Primary Policy E 2, – 3,4,5,6,7,11 12, & 13**	**Secondary Policy E8, 9, 10.**	**Other Policy E14 - 21, DC1 - 6**
Landscape	None	Area of Outstanding Natural Beauty: *within the Cotswold AONB.*	None	N/A
Nature Conservation	None	N/A	Gloucestershire Wildlife Trust Key Sites: *Bagendon Grove, Oysterwell House. Stancombe Wood, Five Acre Grove.*	N/A
Archaeology	None	National: *SMR:,4126, 4679, 4681.*	Local: *SMR: 2033, 2045, 7542 adjacent to boundaries.*	N/A
Historic Built Environment	N/A	Conservation Areas: *Bagendon.*	N/A	N/A
Water Environment	N/A	Groundwater Vulnerability: *Major Aquifer.*	N/A	N/A
Agricultural Land	N/A	None	Agriculture Land Grade: *Grade 3b - 100%*	N/A

ENVIRONMENTAL CONSTRAINTS [See Plan 4A]				
Category of Constraint	**Principal Policy E1**	**Primary Policy E 2, – 3,4,5,6,7,11 12, & 13**	**Secondary Policy E8, 9, 10.**	**Other Policy E14 - 21, DC1 - 6**
Highways	N/A	N/A	N/A	Local Highways Network: *Access to A417 Preferred route for long distance lorry traffic.*
Public Access	N/A	N/A	N/A	Public Rights of Way: *N^{o} 3.*
Local Amenity	N/A	N/A	N/A	Settlements/Properties: *High Tun Farm to the south-west, Bagendon to the north-east of Area*
Tourism and Recreation	N/A	N/A	N/A	None

Proposals:

- **Archaeology -** The area is of high archaeological potential. Both earlier prehistoric and late iron age-early Roman features may be present and these may include features of national importance. The linear earthwork following the south-eastern boundary of the area should be preserved in situ. Other features present on the site which are contemporary and associated with the late iron-age-early Roman settlement of Bagendon, are likely to be assessed as being of national importance meriting preservation in situ. **Any applications for mineral extraction must be accompanied by an archaeological evaluation to identify fully any archaeological constraints present, and indicate how; either by in situ preservation where appropriate, or by a programme of archaeological investigation for remains of a lesser significance, the impact of mineral extraction on the archaeological remains will be mitigated.**

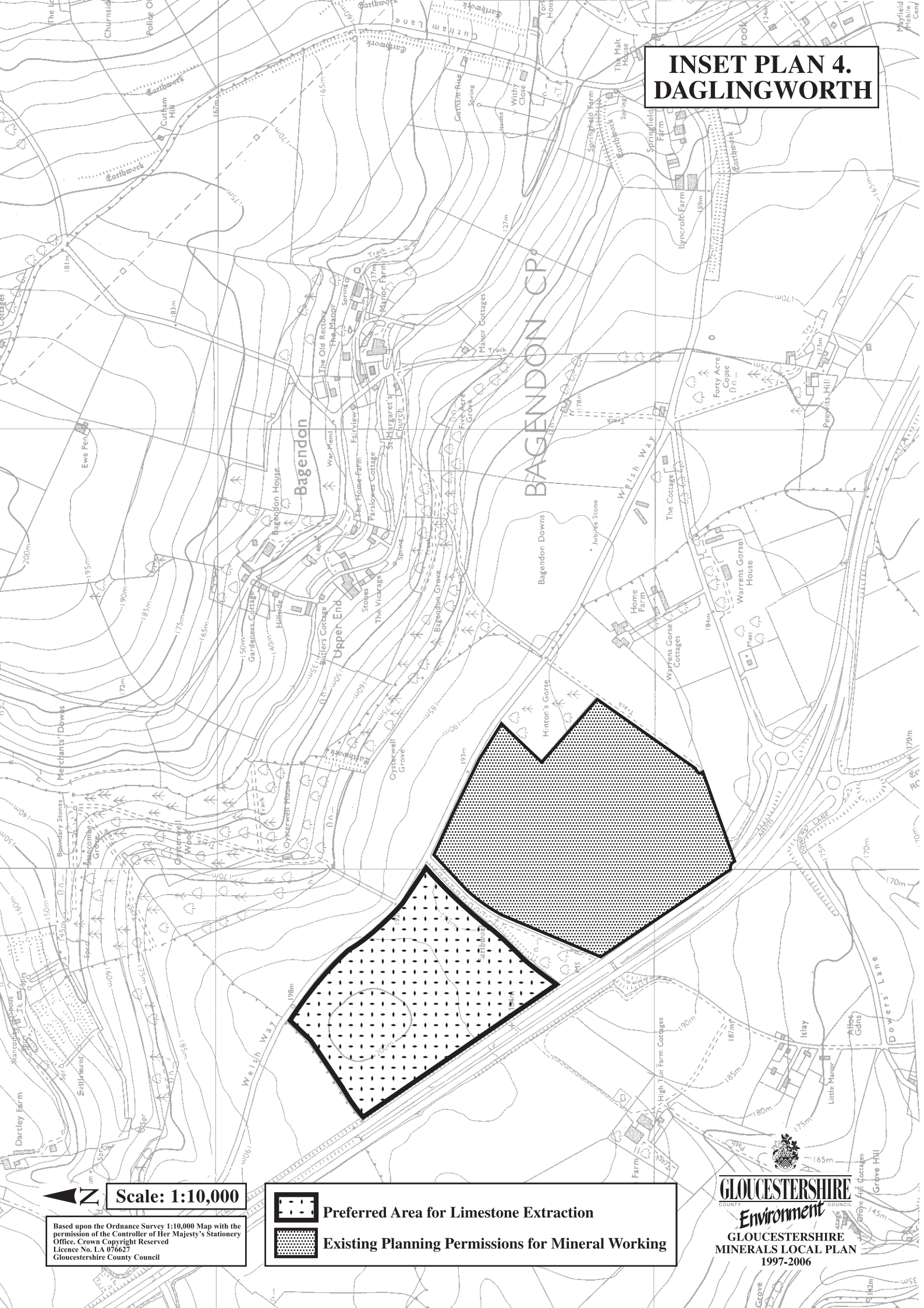
- **Environmental Assessment -** The Preferred Area lies within the Cotswolds Area of Outstanding Natural Beauty (AONB). Any major proposals for mineral development would fall within Schedule 2 of the Town & Country Planning (Environmental Impact Assessment) Regulations 1999. **Any major proposals for mineral working should be accompanied by an Environmental Impact Assessment, as there is a likelihood of significant environmental effects.**

- **Hydrology -** The site is located on a major aquifer and groundwater flow is likely to be rapid as a consequence of the fissured nature of the limestone. Spring flow is common, as is the tendency for streams to lose water to ground in certain sections. Pollution attenuation mechanisms are limited to dilution and oxygenation. In addition, Thames Water's Baunton public water supply boreholes are a few kilometres from the site and must be safeguarded in terms of maintaining groundwater levels and subsequent spring flows to the River Churn. The geology is complex, with faulting and spring flow a problem. **Mineral operators are required to carry out a preliminary hydrogeological assessment of conditions at the site in advance of the submission of a planning application to ensure that ground and surface water can be safeguarded. There should be no extraction of minerals below the maximum level of the seasonal water table.**

- **Landscape – As the whole Preferred Area lies within the AONB, mineral operators are required to undertake a full assessment of the impact of mineral working through the extension of mineral working. Similar bunding and tree planting which is present at the existing quarry will be required to mitigate any impact in the Preferred Area. Subject to taking account of the archaeological interest present, operators should undertake landscaping and extensive planting well in advance of mineral extraction in order to mitigate likely landscape impact which could result from extension of the quarry into the Preferred Area.**

- **Operational - A strip of land between the Southeast of the 'Preferred Area' and the existing quarry will need to be retained as a linear feature to preserve the archaeological feature. This also retains a number of mature trees and a Public Right of Way. Any proposals for extension in the 'Preferred Area' would require that all aggregate should be processed through the plant retained in the existing quarry. All minerals would be moved by the construction of a tunnel built under the linear feature for processing through existing plant.**

INSET PLAN 4. DAGLINGWORTH



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Scale: 1:10,000

Preferred Area for Limestone Extraction

Existing Planning Permissions for Mineral Working

GLOUCESTERSHIRE COUNTY COUNCIL
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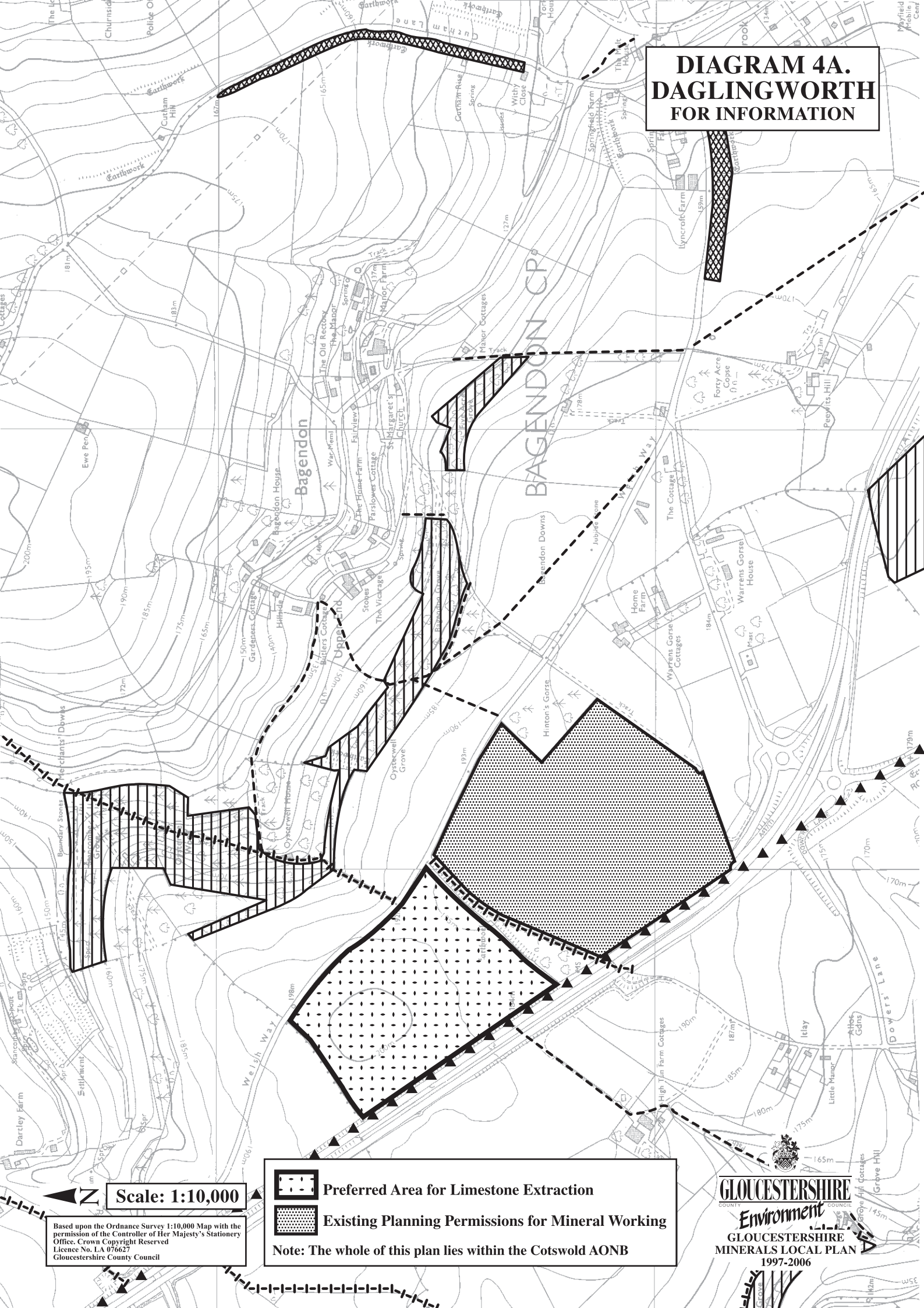
GLOUCESTERSHIRE MINERALS LOCAL PLAN 1997-2006

DIAGRAM 4A.
DAGLINGWORTH
FOR INFORMATION



Preferred Area for Limestone Extraction

Existing Planning Permissions for Mineral Working

Note: The whole of this plan lies within the Cotswold AONB

N

Scale: 1:10,000

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GLOUCESTERSHIRE MINERALS LOCAL PLAN 1997-2006

No. 5 **Crushed Rock – Cotswolds**
Huntsmans - Preferred Area

Location:

The Area forms several extensions to Huntsman's Quarry. The quarry is located in an elevated part of the northern area of the Cotswolds AONB approximately 1.7 km north of Naunton and 3.7 km east of Temple Guiting, in Temple Guiting and Naunton Park.

Site Description:

The current land use of the Areas and surrounding land is mainly open arable farmland of large fields interspersed with small woodland areas. The land form is characteristic, with a dry valley running from north-west to south-east across each preferred area. Most of the 132 ha of the existing quarry has been progressively restored to agriculture apart from a present working area of some 10 ha and the new permission area which is still yet to be worked.

Grid Reference: SP 120 260 **Site Area:** Approximately 62 hectares.

Geological Resource:

The existing quarry is situated where limestone's of the Great Oolite group are widely exposed as horizontal or slightly inclined beds. The quarry itself works limestone beds forming the boundary between the Great and Inferior Oolite group, including rock units known as Chipping Norton limestone (a fine grained sandy limestone), "Fullers Earth Clay" (mudstone with thin limestone), "Cotswold Slates" (fine grained sandy limestone) and Taynton (Oolitic limestone). The Preferred Areas are located where Cotswolds Slates and associated strata are believed to be present in workable quantities.

Potential Mineral Yield:

Around 7.5 million tonnes. Additional resources (around 2.5 million tonnes) are known to exist to the eastern extent of the permitted areas which are now largely worked out but which retain the processing plant. These resources remain for the longer term subject to technical and environmental suitability.

Type of Proposal:

The extension to the existing quarry for the working of limestone for mainly aggregate purposes.

Planning History:

The original permission for Huntsman's Quarry was granted for quarrying and the working of stone in 1950. Since that time there have been numerous permissions granted for the extension of the quarry - most recently in 1996 for a 37 ha extension (5.1 million tonnes) of the quarry to the west of the existing site, following the completion of a legal agreement in respect of highway matters.

ENVIRONMENTAL CONSTRAINTS [See Plan 5A]				
Category of Constraint	**Principal Policy E1**	**Primary Policy E 2, – 3,4,5,6,7,11 12, & 13**	**Secondary Policy E8, 9, 10.**	**Other Policy E14 - 21, DC1 - 6**
Landscape	None	Area of Outstanding Natural Beauty: *within Cotswold AONB.*	None	N/A
Nature Conservation	None	Site of Special Scientific Interest: *Geological SSSI on quarry face.* *Barton Bushes SSSI West of the Preferred Area.*	None	N/A

ENVIRONMENTAL CONSTRAINTS [See Plan 5A]				
Category of Constraint	**Principal Policy E1**	**Primary Policy E 2, – 3,4,5,6,7,11 12, & 13**	**Secondary Policy E8, 9, 10.**	**Other Policy E14 - 21, DC1 - 6**
Archaeology	None	Scheduled Ancient Monument: *Western Site – SMR 208, SMR 11068; Northern Site - SMR 562, 563.* National: *SMR 11014, 11015.*	None	N/A
Historic Built Environment	None	N/A	N/A	N/A
Water Environment	N/A	Groundwater Vulnerability: *Major Aquifer.*	N/A	N/A
Agricultural Land	N/A	Agriculture Land Grade: *Grade 2 - 10%* *Grade 3a - 9%*	*Grade 3b - 62%* *Grade 5 - 19%*	N/A
Highways	N/A	N/A	N/A	Local Highways Network: *Access via minor road network.*
Public Access	N/A	N/A	N/A	Public Rights of Way: N^{o} 1, 3, 33.
Local Amenity	N/A	N/A	N/A	Settlements/Properties: *Stonefield, Eyford Hill Farm, Huntsman's Barn, Nosehill Farm, Wood Barn, Chalkhill Farm, Keepers Lodge, Chalkhill Cottage, Chalkhill, Tinkers Barn, Stonefield.*
Tourism and Recreation	N/A	N/A	N/A	Tourist Facility: *Cotswolds Farm Park.*

Proposals:

- **Agriculture/Restoration** - Detailed surveys of land vary from 3b to 3a. The existing quarry is being progressively restored to agriculture following mineral extraction**. As it is dry, proposals for mineral working within the 'Preferred Area' should incorporate this method of progressive restoration. The restoration scheme should also take account of the ecological interest and geological features present**.

- **Archaeology** - This area is exceptionally rich in archaeological evidence of settlement and burials of prehistoric and Roman date. There is a Bronze age round barrow which is a Scheduled Ancient Monument (SAM) and part of a round barrow cemetery which extends into the adjacent fields. Additional Bronze Age burial sites may be present in the immediate vicinity. The SAM is excluded from the western part of the 'Preferred Area'. **However, the setting of the SAM in the western part of the 'Preferred Area' must be taken into account when considering proposals for mineral development in this area ensuring that it is preserved *in situ.* Similar consideration should apply to the Scheduled Ancient Monument which lies adjacent to but outside the northern section of the 'Preferred Area'. There is a high probability that there will be other areas of archaeological interest, and therefore any applications for mineral extraction must be accompanied by an archaeological evaluation to identify fully any archaeological constraints present, and indicate how; either by in situ preservation where appropriate, or by a programme of archaeological investigation for remains of a lesser significance, the impact of mineral extraction on the archaeological remains will be mitigated**.

- **Ecology/Geological Features** - Huntsman's Quarry supports a population of Cotswolds Pennycress (Thlaspi perfoliatum), a nationally rare plant that is specially protected under Schedule 8 of the Wildlife and Countryside Act 1981. With appropriate management and restoration conditions, new working could create opportunities to increase population size. Immediately to the west of the Preferred Area is another SSSI (Barton Bushes) which is of biological interest. There is also a geological SSSI associated with Huntsman's

Quarry. **Proposals for mineral extraction within the 'Preferred Area' will need to secure a greater or equivalent geological interest in the restoration of workings.**

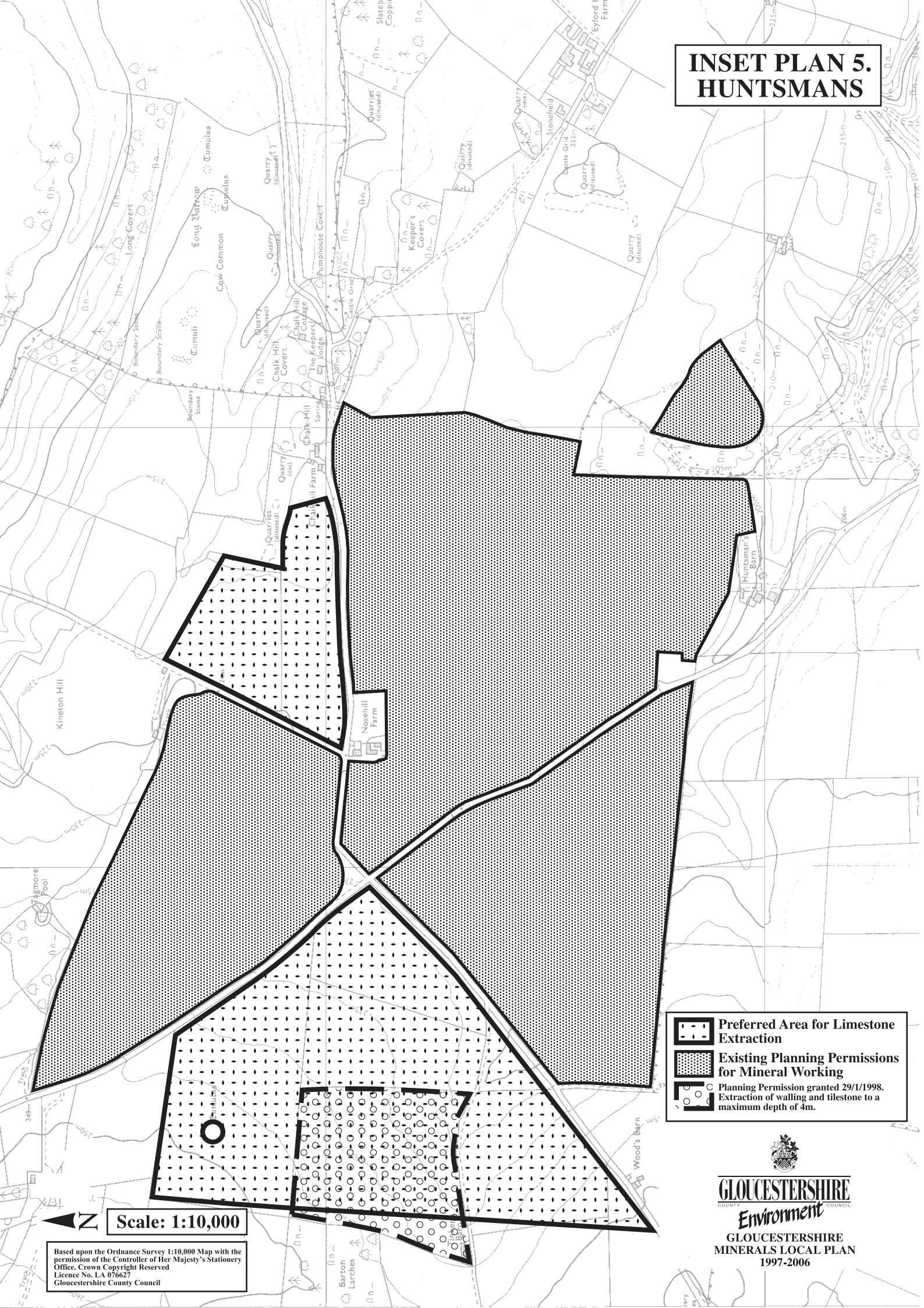
- **Environmental Assessment -** Any proposal to work the majority of the Area of Search will be a Schedule 1 development under the Town and Country Planning (Environmental Impact Assessment) Regulations 1999. As the site lies within the Cotswolds Area of Outstanding Natural Beauty (AONB), Any major proposals for mineral development would fall within Schedule 2 of Town & Country Planning (Environmental Impact Assessment) Regulations 1999. **Any major proposal for mineral working in excess of 25 ha will require an Environmental Impact Assessment (EIA). Any proposal for mineral working within the "Preferred Areas" less than 25 ha should also be accompanied by an EIA as development under Schedule 2 likely to have significant effects on the environment.**

- **Hydrology –**The site is located on a major aquifer and groundwater flow is likely to be rapid as a consequence of the fissured nature of the limestone. Spring flow is common, as is the tendency for streams to lose water to ground in certain sections. Pollution attenuation mechanisms are limited to dilution and oxygenation. The geology is complex with faulting and spring flow a problem. **Mineral operators are required to carry out a preliminary hydrogeological assessment of conditions in advance of the submission of a planning application to ensure that ground and surface water can be safeguarded. There should be no extraction of minerals below the maximum level of the seasonal water table.**

- **Landscape - As all of the 'Preferred Area' lies within the AONB, mineral operators are required to undertake a full assessment of the impact of mineral working through the extension of mineral working.**

- **Operational - Any proposals for extension into the 'Preferred Area' would require that all minerals should be processed through the existing plant. With regard the western section of the 'Preferred Area' minerals should be moved through the proposed access tunnel. A similar tunnel may be required for any mineral working within the northern section of the 'Preferred Area'. Mineral operators are advised to discuss any proposals with the MPA at an early stage prior to the submission of a planning application.**

INSET PLAN 5. HUNTSMANS



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Environment

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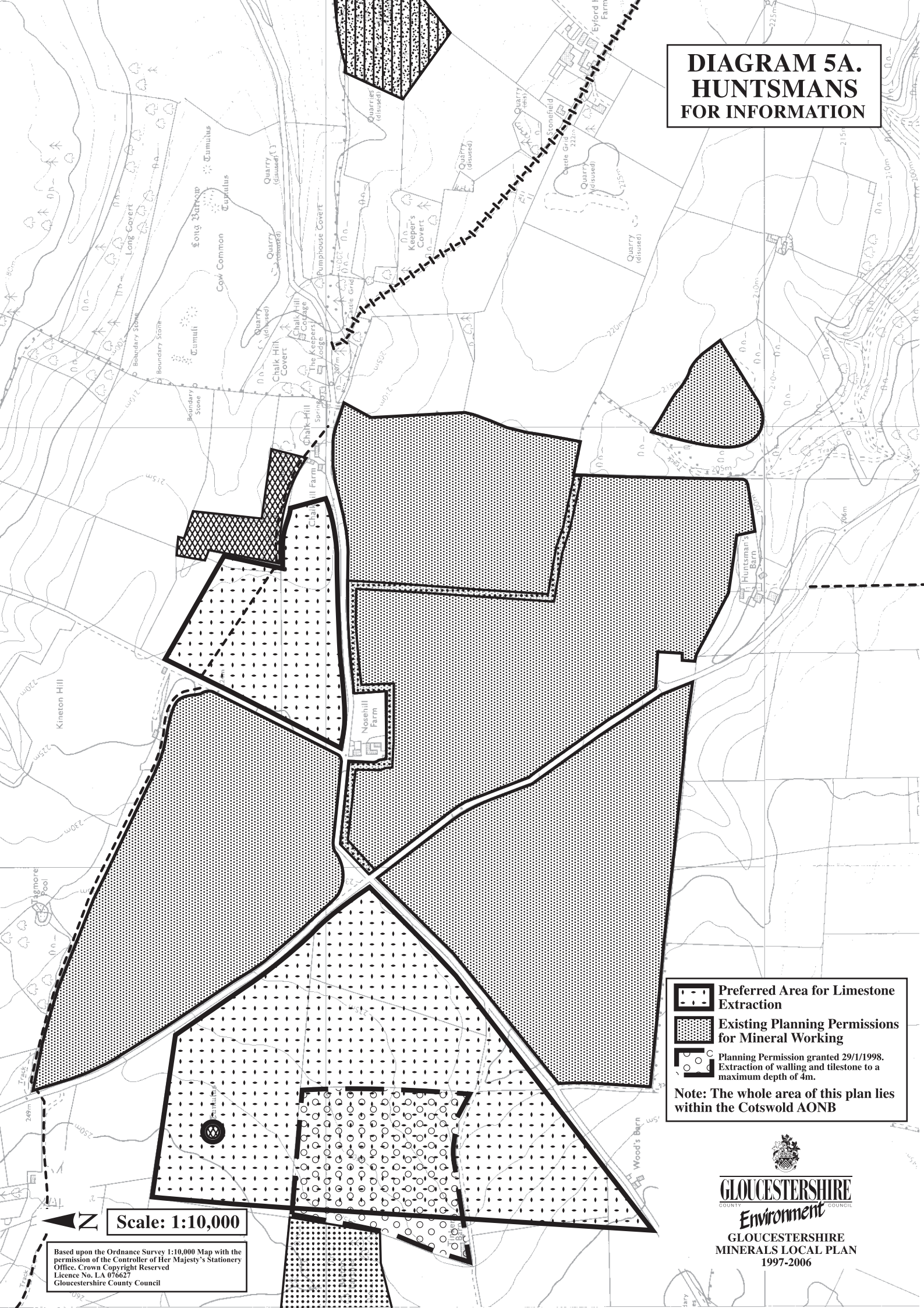
DIAGRAM 5A.
HUNTSMANS
FOR INFORMATION



No. 6 Sand & Gravel
Dryleaze Farm - Preferred Area

Location:

This area comprises land adjacent to an area already permitted for sand and gravel extraction much of which is actively being worked as Shorncote Pit. It extends northwards from the Ewen-South Cerney road to Dryleaze Farm.

Site Description:

The area is principally slightly undulating agricultural land adjoining wider areas already committed to sand and gravel extraction. The Ewen-South Cerney road provides access to the existing working at Shorncote Pit, and runs along the southern boundary of the area.

Grid Reference: SU 09 NW **Site Area:** 37 hectares.

Geological Resource:

The whole area, including Shorncote Pit, lies on deposits of the First Terrace which is found as a north-south trending tongue of deposits associated with an old tributary of the Thames. The deposits are underlain by Middle and Upper Jurassic strata [Cornbrash and Kellaway Beds]. Existing planning permissions suggest that the terrace deposits are between 1 and 6 metres in thickness and lie beneath about 0.5 metres of overburden. The existing working of Shorncote Pit yields both sand and gravel and limestone [Cornbrash].

Potential Mineral Yield:

c 1 ¼ Million tonnes.

Type of Proposal:

Extraction of sand and gravel, possibly as an extension to existing sand and gravel workings (see Shorncote Planning History).

Planning History:

South of the Preferred Area several planning permissions for sand and gravel extraction have been granted, principally in relation to Shorncote Pit which has been worked since 1988 and has had a number of extensions. It is being progressively reclaimed to create a substantial landscaped lake for low intensity sport and recreational use. Also, approval was given in 1991 for the extraction of a shallow limestone horizon [Cornbrash], upon which the sand and gravel of Shorncote Pit rests, to facilitate proposals for the site. A recent planning permission granted was for an extension eastwards of Shorncote Pit in 1996. However this area will be restored to ground level with rock and other mineral waste from elsewhere in Shorncote Pit.

ENVIRONMENTAL CONSTRAINTS [See Plan 6A]				
Category of Constraint	**Principal Policy E1**	**Primary Policy E2, – 3,4,5,6,7,11, 12, & 13**	**Secondary Policy E8, 9, 10.**	**Other Policy E14 - 21, DC1 - 6**
Landscape	None	None	Regionally Important Geological Sites: *Shorncote Quarry NB. It lies in a working area which has planning permission*	N/A
Nature Conservation	None	None	None	N/A
Archaeology	None	National: *SMR: 2354, 2355, 2356, 2370, 2372 & 3364.*	Local: *SMR: 15477 & 2361.*	N/A

ENVIRONMENTAL CONSTRAINTS [See Plan 6A]				
Category of Constraint	**Principal Policy E1**	**Primary Policy E2, – 3,4,5,6,7,11, 12, & 13**	**Secondary Policy E8, 9, 10.**	**Other Policy E14 - 21, DC1 - 6**
Historic Built Environment		Listed Buildings: *N^{o} 194 and 195.*	N/A	N/A
Water Environment	N/A	Groundwater Vulnerability: *Minor Aquifer.*	N/A	N/A
Agricultural Land	N/A	Agriculture Land Grade: *DryleazeFarm Grade 2 - 24% Grade 3a - 42%*	*Grade 3b - 14% Grade 4 - 20%.*	N/A
Highways	N/A	N/A	N/A	Local Highways Network: *Access via minor roads/ Western Spine Road to A419 - Preferred route for long distance lorry traffic*
Public Access	N/A	N/A	N/A	N/A
Local Amenity	N/A	N/A	N/A	Settlements/Properties: *Shorncote, Glebe Farm, Old Manor Farm, Manor Farm, Tudmoor Cottages, Dryleaze Farm and Dryleaze Farm Cottages.*
Tourism and Recreation	N/A	N/A	N/A	Tourist Facility: *Cotswold Water Park.*

Proposals:

- **Agriculture** - This area comprises agricultural land; about two-thirds is mapped as either Grade 2 or 3a, predominantly the latter, and is therefore classified as the best and most versatile land. **Therefore release of such land for sand and gravel extraction will be subject to its physical characteristics being restored as far as it is practicable to do so, to what they were when it was last used for agriculture.**

- **Archaeology -** Extensive cropmarks of probable bronze age and iron age in the area indicate that this is one of high archaeological potential**. Therefore applications for mineral extraction must be accompanied by an archaeological evaluation to identify fully any archaeological constraints present, and indicate how, either by in situ preservation, or by a programme of archaeological investigation for remains of lesser significance, the impact of mineral extraction on the archaeological remains will be mitigated**.

- **Ecology - An area of broad-leaved scrub with flowing ditch in the southeast corner of the Dryleaze Farm area will require further investigation as part of any application submitted by operators**.

- **Highways** - Access to Shorncote Pit is currently from the Ewen-South Cerney road and access to Dryleaze Farm would be from the same road**. Developer contributions are likely to be required for local improvements to the road network.**

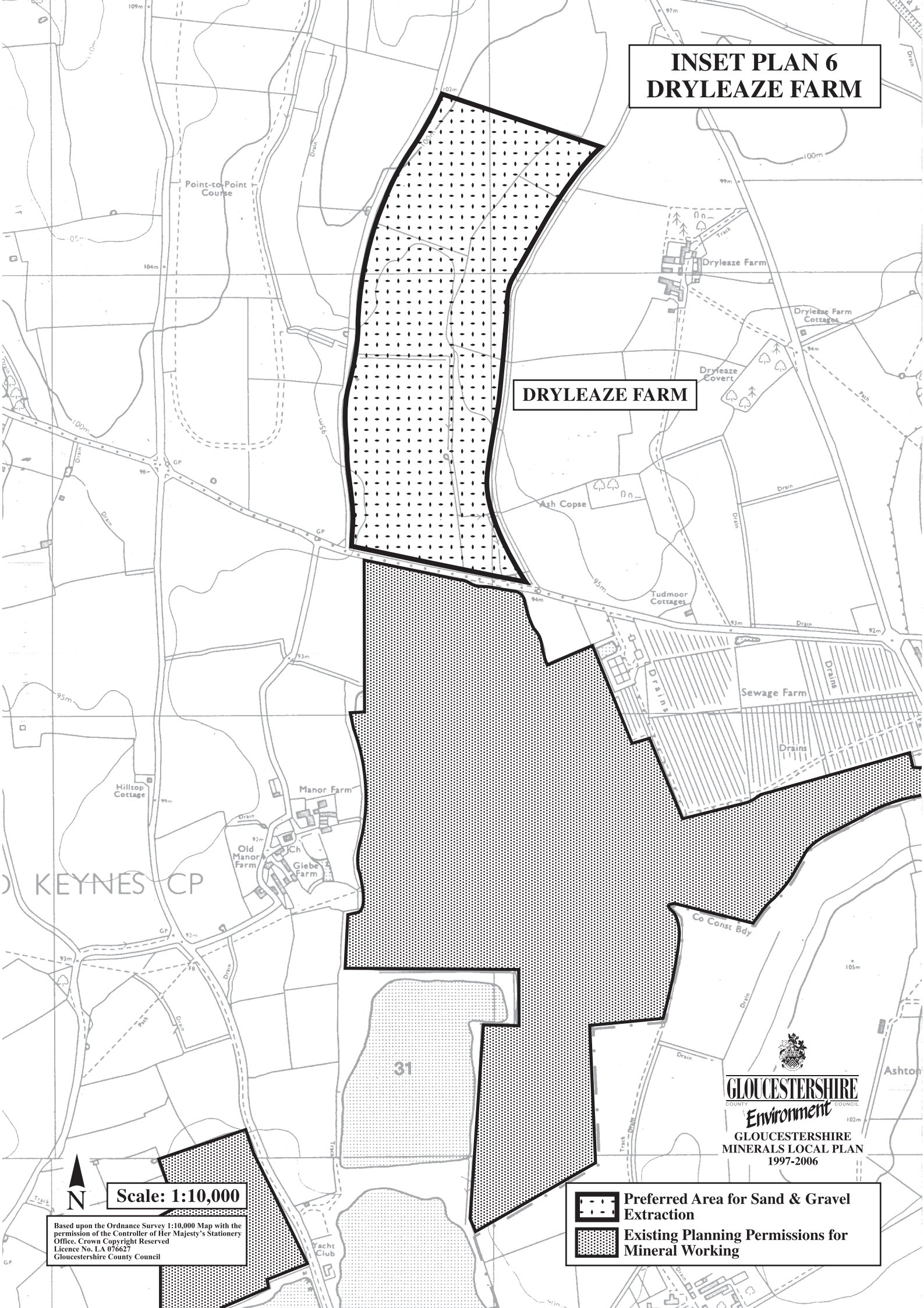
- **Hydrology** - Investigations by the Environment Agency suggest that there could be an area of floodplain associated with the watercourse passing through the site which will require further investigation and protection. **Ground and surface water monitoring schemes must be carried out at least two years prior to proposed extraction working (and afteruse) must ensure no flood risk to adjoining land or settlements.**

- **Landscape - The working of this area will extend the visual influence of the Cotswold Water Park (CWP) in a northerly direction where the land is more undulating and therefore concerns**

will need to be addressed by a landscape and visual impact assessment and appropriate mitigating measures.

- **Restoration - Where practicable the areas should be restored to agriculture with provision for water based nature conservation. Restoration schemes accompanying any proposal for mineral working will need to incorporate opportunities for meeting Local and National Biodiversity targets. The MPA will be guided by the Gloucestershire Biodiversity Action Plan and Cotswold Water Park Biodiversity Action Plan in the consideration of such proposals. Restoration schemes will also need to balance this potential with other restoration issues on the site taking account of the other proposals relating to this Preferred Area**.

- **Environmental Assessment -** Any proposal for mineral working over the whole Preferred Area which is in excess of 25 ha, would be a Schedule 1 development under Town and Country Planning (Environmental Impact Assessment) Regulations 1999. An Environmental Impact Assessment (EIA) may be required for any lesser proposal for mineral working within the Preferred Area as this would be a Schedule 2 development. Although not within a 'sensitive area' as defined in Regulation 2(1) there is likely to be significant effects on the environment due to the scale and duration of operations and in particular if extraction involves more than 30,000 tonnes per year. **Any proposal for mineral working within the Preferred Area, over 25 ha will require an EIA. Any proposal for mineral working within the "Preferred Area" less than 25 ha should also be accompanied by an EIA. Subject to the provisions of a 'screening opinion' under the Regulations, an EIA should accompany any major application for mineral working less than 25 ha within the Preferred Area, as development under Schedule 2 likely to have significant effects on the environment.**


INSET PLAN 6
DRYLEAZE FARM
DRYLEAZE FARM
Point-to-Point Course
Dryleaze Farm
Dryleaze Farm Cottages
Dryleaze Covert
Ash Copse
Tudmoor Cottages
Sewage Farm
Drains
Hilltop Cottage
Manor Farm
Old Manor Farm
Glebe Farm
Ch
KEYNES CP
Co Const Bdy
31
Yacht Club
Ashton
GLOUCESTERSHIRE
COUNTY COUNCIL
Environment
GLOUCESTERSHIRE
MINERALS LOCAL PLAN
1997-2006
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Preferred Area for Sand & Gravel Extraction
Existing Planning Permissions for Mineral Working

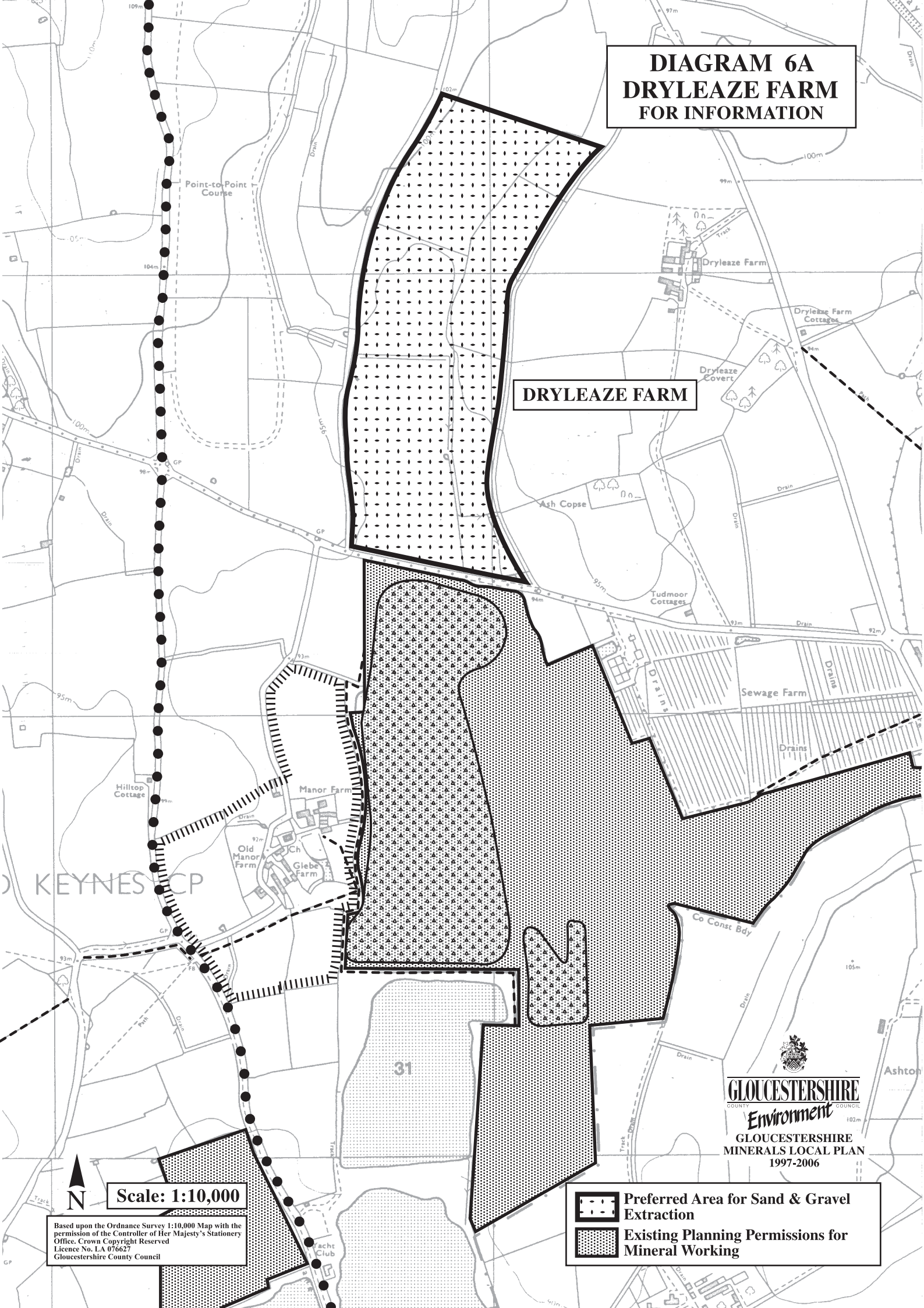
DIAGRAM 6A
DRYLEAZE FARM
FOR INFORMATION
DRYLEAZE FARM
Point-to-Point Course
Dryleaze Farm
Dryleaze Farm Cottages
Dryleaze Covert
Ash Copse
Tudmoor Cottages
Sewage Farm
Drains
Hilltop Cottage
Manor Farm
Old Manor Farm
Ch
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KEYNES CP
Co Const Bdy
31
Yacht Club
Ashton
GLOUCESTERSHIRE
COUNTY COUNCIL
Environment
GLOUCESTERSHIRE
MINERALS LOCAL PLAN
1997-2006
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Preferred Area for Sand & Gravel Extraction
Existing Planning Permissions for Mineral Working

No. 7 **Sand & Gravel**
Cerney Wick - Preferred Area

Location:

This area lies to the south and west of Cerney Wick, bounded by the county boundary, and to the north west by the "Western Spine Road".

Site Description:

The area comprises of a parcel of land peripheral to an existing planning permission for sand and gravel extraction. Together with other permitted areas it forms part of Area of Search (B) as defined in the UTPR (1993). The current land use is mainly agricultural with scattered small holdings. To the northwest and south are extensive lakes in a variety of recreational uses.

Grid Reference: SU 09 NE **Site Area:** 16.5 hectares.

Geological Resource:

The area comprises deposits of the First Terrace that border the River Thames which overlie Oxford clay. Existing planning permissions indicate that these terrace deposits have an average thickness of around 2 metres in the north and 3 metres in the south, but with considerable lateral variations. The Preferred Area appears to contain sand and gravel deposits of potential economic utility.

Potential Mineral Yield:

0.5 million tonnes (depending upon the outcome of hydrological investigations).

Type of Proposal:

Sand and gravel extraction, possibly as an extension to existing workings (see Planning History).

Planning History:

Two areas have been granted for planning permissions for sand and gravel extraction within the overall Area of Search since it was designated. However, only 10 hectares of one 33 hectare permission have been worked, and a further 53 hectare site has yet to be worked. The reclamation of these sites will be to a landscaped lake and to a water based nature conservation area.

ENVIRONMENTAL CONSTRAINTS [See Plan 7A]				
Category of Constraint	**Principal Policy E1**	**Primary Policy E2, – 3,4,5,6,7,11, 12, & 13**	**Secondary Policy E8, 9, 10.**	**Other Policy E14 - 21, DC1 - 6**
Landscape	None	None	None	N/A
Nature Conservation	North Meadow National Nature Reserve (candidate SAC)	Site of Special Scientific Interest: *Elmlea Meadows*	Gloucestershire Wildlife Trust Key Sites: *Cerney Wick Copse*	N/A
Archaeology	None	National: *SMR: 3042 & 3043*	None	N/A
Historic Built Environment	N/A	N/A	N/A	N/A
Water Environment	N/A	Groundwater Vulnerability: *Minor Aquifer*	N/A	The entire area is in the floodplain of the River Thames and Churn.
Agricultural Land	N/A	Agriculture Land Grade: *Grade 2 - 9%* *Grade 3a - 19%*	Grade 3b - 72%	N/A

ENVIRONMENTAL CONSTRAINTS [See Plan 7A]				
Category of Constraint	**Principal Policy E1**	**Primary Policy E2, – 3,4,5,6,7,11, 12, & 13**	**Secondary Policy E8, 9, 10.**	**Other Policy E14 - 21, DC1 - 6**
Highways	N/A	N/A	N/A	Local Highways Network: *Access via Western Spine Road to A419 Preferred route for long distance lorry traffic*
Public Access	N/A	N/A	N/A	Public Rights of Way: *N^{o} BSC 25, 43, 46, 47and Thames Path – A*
Local Amenity	N/A	N/A	N/A	Settlements/Properties: *Cerney Wick, Wickwater Farm and Hailstone House.*
Tourism and Recreation	N/A	N/A	N/A	Tourist Facility: *Cotswold Water Park.*

Proposals:

- **Agriculture -** This area comprises agricultural land, three quarters of which is mapped as being Grade 3b; the remainder is the best and most versatile land [Grade 2 and 3a]. Because of the distribution of the latter there would be no objection from an agricultural viewpoint to the extraction of sand and gravel.

- **Archaeology -** The Upper Thames Valley terrace deposits contain evidence of extensive Prehistoric and Roman settlement; in this area linear earthworks are recorded and burials. It is considered to be of high archaeological potential**. Therefore applications for mineral extraction must be accompanied by an archaeological evaluation to identify fully any archaeological constraints present, and indicate how, either by in situ preservation, or by a programme of archaeological investigation for remains of lesser significance, the impact of mineral extraction on the archaeological remains will be mitigated**.

- **Ecology/Hydrology- The impact of mineral extraction on surface and ground water hydrology, particularly the water table regime will need to be fully evaluated. Potential mineral developers will need to liase with the Environment Agency to ensure protection of the local aquatic ecosystem, in particular the stability of the hydrological regime. Pre-application monitoring (of at least two years duration) will be a pre requisite of any studies of the relationship between ecology and hydrology. The disused railway line which abuts the area forms a valuable tree-lined wildlife corridor worthy of preservation. In addition as this area is affected by the flood plain of the rivers Churn and Thames there must be no obstruction of flood flow routes or storage capacity. Further water courses must be retained in an undisturbed corridor agreed with the EA.**

- **Highways** - Access to existing planning permissions is from the Western Spine Road. **Future access to the Preferred Area will be required to make appropriate connection to the Western Spine Road without using adjoining narrow country lanes.** In this context Weight Restriction Orders (WRO) are in place on local lanes to protect the amenities of local residents. **Developer contributions maybe required for local improvements to the road network.**

- **Landscape - The possibility of preserving the character of this small scale area following mineral extraction, rather than being incorporated into the larger water landscape of the surrounding area, should be considered**.

- **Public Rights of Way -** The bridleway along the disused railway, must be safeguarded, and measures taken to preserve its identity.

- **Settlements - The individual properties on the lane running south west from Cerney Wick towards Wickwater Farm must be safeguarded in accordance with policies of this Plan on 'buffer zones'. Cerney Wick must also be safeguarded; the Settlement Protection Area defined**

about this settlement on the Proposals Map of the UTPR [1993] represents an appropriate 'buffer zone' in both landscape and amenity terms.

- **Restoration - Restoration schemes accompanying any proposal for mineral working will need to incorporate opportunities for meeting Local and National Biodiversity targets. The MPA will be guided by the Gloucestershire Biodiversity Action Plan and Cotswold Water Park Biodiversity Action Plan in the consideration of such proposals. Restoration schemes will also need to balance this potential with other restoration issues on the site taking account of the other proposals relating to this Preferred Area**.

- **Environmental Assessment –** Although in terms of scale, significance and sensitivity of location an EIA may not be required as part of any planning application, there will still be a requirement for a 'screening opinion' as to whether this would be the case. Operators are advised to establish whether an EIA is required at an early stage with the MPA preferably prior to the submission of a planning application.

INSET PLAN 7.
CERNEY WICK

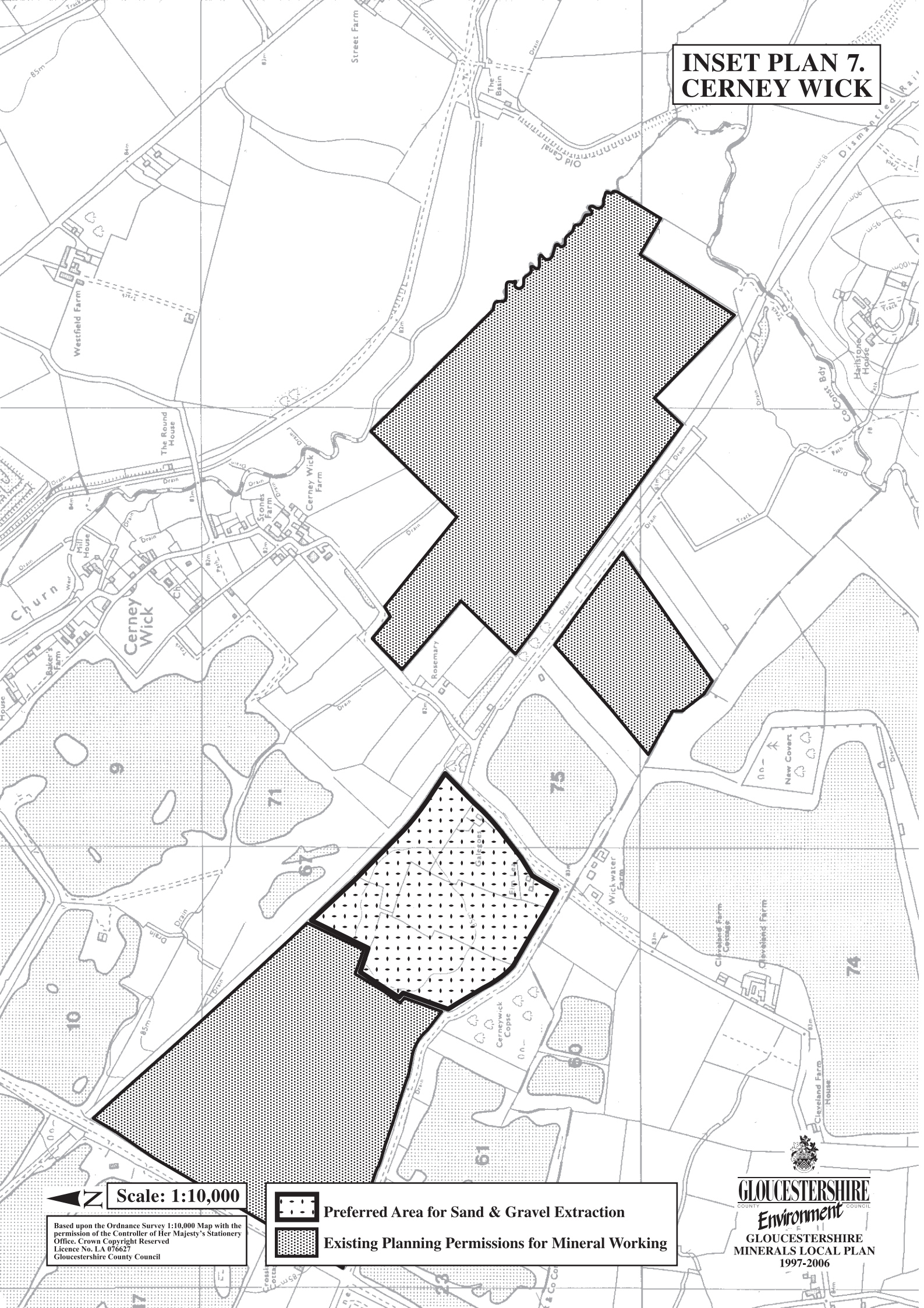
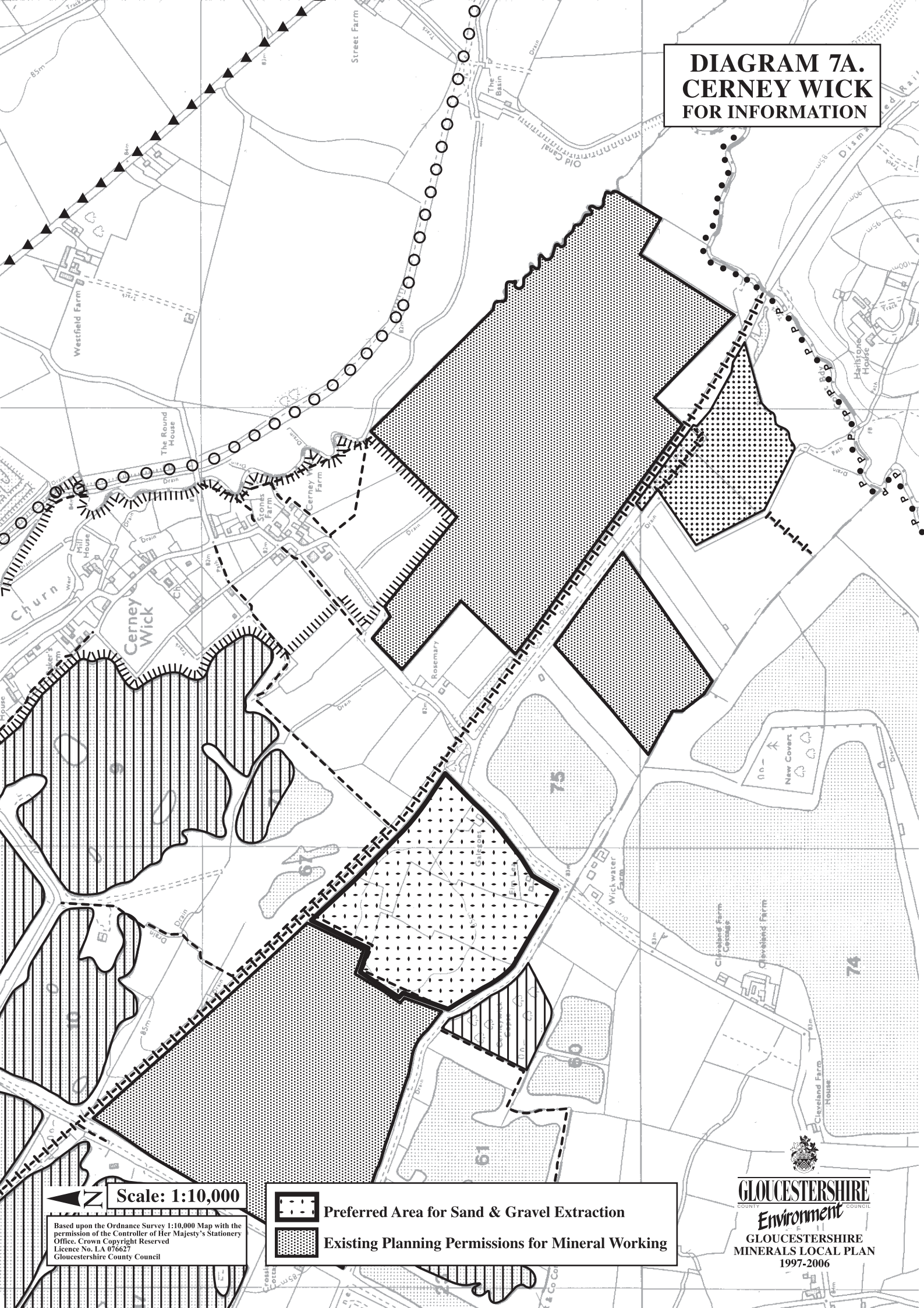


DIAGRAM 7A.
CERNEY WICK
FOR INFORMATION



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Preferred Area for Sand & Gravel Extraction

Existing Planning Permissions for Mineral Working

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MINERALS LOCAL PLAN
1997-2006

No. 8 **Sand & Gravel**
Horcott/Lady Lamb Farm – Preferred Area

Location:

This area comprises two tracts of land. One is a triangular shaped parcel of land associated with Lady Lamb Farm lying to the west of Fairford and south of the A417, between the county boundary with Wiltshire and the existing sand and gravel workings of Horcott Pit. The second area is a strip of land immediately to the west of Horcott Pit.

Site Description:

The land is currently in agricultural use, with several small areas of woodland. Immediately to the east of this area along its whole length is the extensive excavations of an active sand and gravel working. The latter is known as Horcott Pit and extends over 102 hectares of land between Fairford and the northern perimeter of Fairford Airfield.

Grid Reference: SU 19 NW **Site Area:** c 100 hectares

Geological Resource:

The area lies on the northern flank of Thames terraces. The deposits here belong to the older second, third and fourth terraces and tend to be patchily distributed over an area between Fairford and Meysey Hampton. However the terrace deposits of particular interest are to be found in a relatively narrow band down the western side of Horcott Pit and adjoining, and around, Lady Lamb Farm, overlying Kellaway Beds or Oxford Clay. The sand and gravel here has an estimated mean thickness of about 2.5 - 3 metres under about 0.5 metres of overburden.

Potential Mineral Yield:

Up to 3.0 million tonnes.

Type of Proposal:

Extraction of sand and gravel; possibly as an extension to existing sand and gravel workings (see Planning History).

Planning History:

There is no recorded sand and gravel extraction from the whole Preferred Area, although the adjoining Horcott Pit is working a series of planning permissions for sand and gravel extraction granted between 1954 and 1963. An area of land previously part of the Horcott Pit planning permissions, but where the permission has lapsed, is included in the Preferred Area.

ENVIRONMENTAL CONSTRAINTS [See Plan 8A]				
Category of Constraint	**Principal Policy E1**	**Primary Policy E2, – 3,4,5,6,7,11, 12, & 13**	**Secondary Policy E8, 9, 10.**	**Other Policy E14 - 21, DC1 - 6**
Landscape	None	None	Regionally Important Geological Sites: *Horcott Pit is near, but not adjacent, to the Preferred Area. NB. It lies within a working area which has planning permission.*	N/A
Nature Conservation	None	None	Gloucestershire Wildlife Trust Key Sites: *Lake 1- Cotswold Water Park.*	N/A

ENVIRONMENTAL CONSTRAINTS [See Plan 8A]				
Category of Constraint	**Principal Policy E1**	**Primary Policy E2, – 3,4,5,6,7,11, 12, & 13**	**Secondary Policy E8, 9, 10.**	**Other Policy E14 - 21, DC1 - 6**
Archaeology	None	Scheduled Ancient Monument: *SMR 3203.* National Areas of Archaeological Importance: *SMR 2416, 2417, 2505, 3155, 3200, 3201, 3202, 3223, & 3224.*	None	N/A
Historic Built Environment	N/A	Listed Buildings: *N^{o} 198 and 199.*	N/A	N/A
Water Environment	N/A	Groundwater Vulnerability: *Minor Aquifer.*	N/A	N/A
Agricultural Land	N/A	Agriculture Land Grade: *Grade 2 - 13%* *Grade 3a - 65%*	Grade 3b - 22%	N/A
Highways	N/A	N/A	N/A	Local Highways Network: *A419 - Preferred route for long distance lorry traffic.*
Public Access	N/A	N/A	N/A	Public Rights of Way: *BFA 6 and 10.*
Local Amenity	N/A	N/A	N/A	Settlements/Properties: *Horcott, Meysey Hampton, Fairford a number of scattered properties and farms within this area.*
Tourism and Recreation	N/A	N/A	N/A	Tourist Facility: *Cotswold Water Park.*
Other	N/A	N/A	N/A	Military Airbase: *Fairford*

Proposals:

- **Agriculture -** This area comprises agricultural land, over two-thirds of which is mapped as being the best and most versatile land (Grade 2 and 3a but mainly the latter. The remainder is generally Grade 3b**). Therefore release of such land for sand and gravel extraction will be subject to its physical characteristics being restored as far as it is practicable to do so, to what they were when it was used for agriculture.**

- **Archaeology -** The Upper Thames Valley terrace deposits contain evidence of extensive Prehistoric and Roman settlement; this area in particular is of high archaeological potential because of the presence of a wide range of Prehistoric settlements, field systems and burials. Ring ditches and settlements have been identified as potentially of national importance immediately north of Horcott Pit, these will be considered for scheduling as ancient monuments by English Heritage. The range of periods represented in this area suggests that further land in this area may also merit scheduling**. Outside areas of national importance [which are to be safeguarded from mineral working] applications for mineral extraction must be accompanied by an archaeological evaluation to identify fully any archaeological constraints present, and indicate how, either by in situ preservation, or by a programme of archaeological investigation for remains of lesser significance, the impact of mineral extraction on the archaeological remains will be mitigated. A scheduled ancient monument immediately to the north of Horcott Pit is excluded from the Preferred Area; however a further area within the latter will need to be safeguarded as a setting to the monument**.

- **Cross-boundary issues -** Sand and gravel deposits of Lady Lamb Farm extend westwards into Wiltshire. Mineral operators are advised to discuss with the Wiltshire Mineral Planning Authority as to whether these contiguous resources can be worked within that administrative boundary.

- **Ecology/Hydrology - Small areas of woodland (including Lady Lamb's Copse) in this Preferred Area should be safeguarded, and all trees removed should be replaced on a one for one basis as part of subsequent restoration. In addition a small pond adjoining the north edge of Horcott Pit will require further investigation**. An ordinary watercourse runs west to east along the southern boundary of the two areas, but through the northern tip of the long thin area. This watercourse follows a gently meandering route within a strongly wooded corridor along the entire length. **This linear habitat needs to be preserved within an appropriate buffer strip.**

- **Highways -** Although part of this area adjoins the A417, the use of that road by mineral traffic is unlikely to be acceptable due to their impact on Fairford and on villages to the west**. In practical terms, therefore, the only acceptable means of access would be via Totterdown Lane to access the "Eastern Spine Road". Developer contributions will be required for road improvements to the Eastern Spine Road, and the local road network**.

- **Landscape -** Mineral working at Lady Lamb Farm could be very visible with open views from the A417 and Fairford, because of its modest topographic elevation. **As a consequence detailed landscape and visual impact assessment will be essential in this area.**

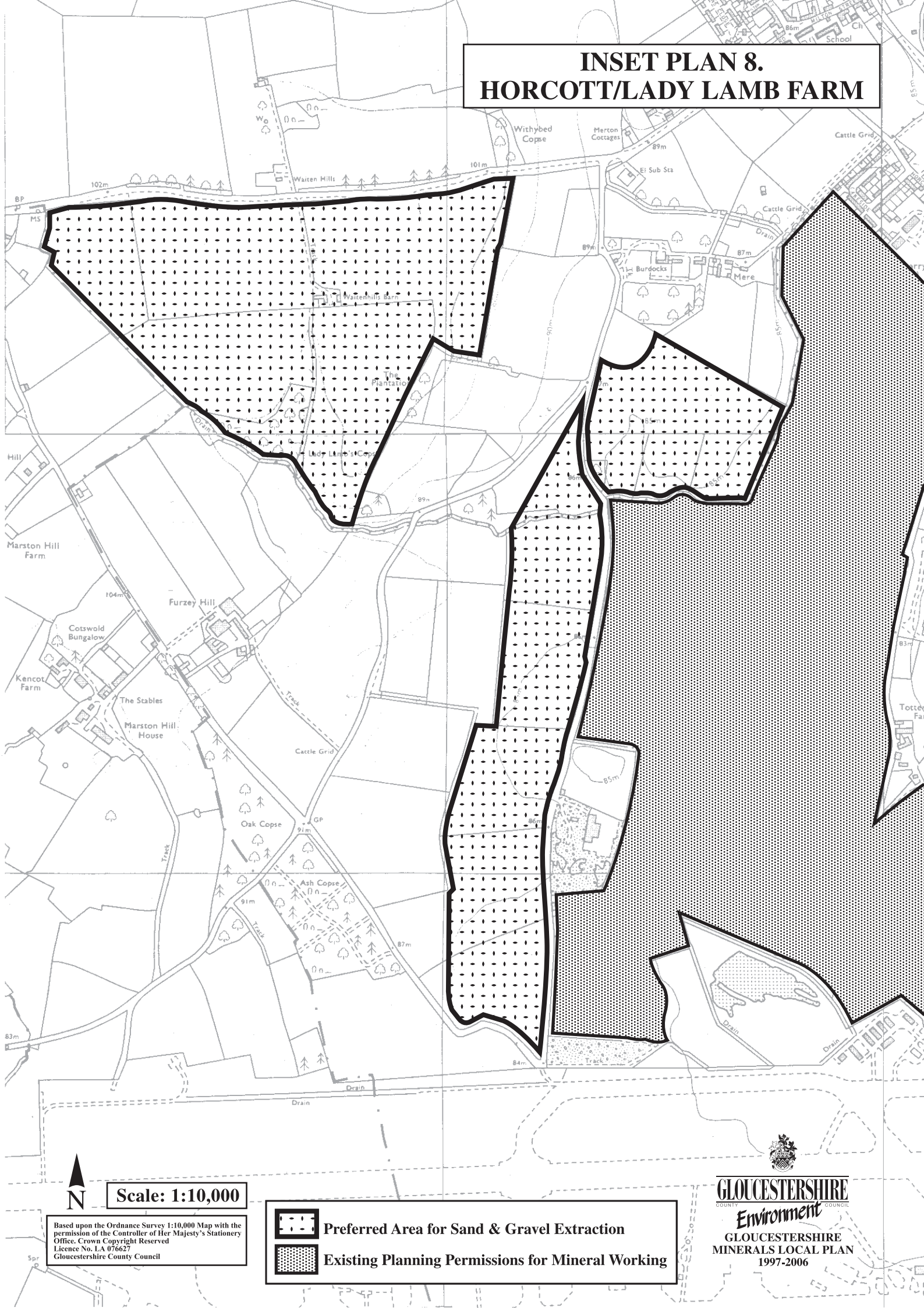
- **Settlements** - Individual properties lying to the north of the area and west of Horcott must be safeguarded in accordance with policies of this Plan on 'buffer zones'.

- **Restoration - Restoration schemes accompanying any proposal for mineral working will need to incorporate opportunities for meeting Local and National Biodiversity targets. The MPA will be guided by the Gloucestershire Biodiversity Action Plan and Cotswold Water Park Biodiversity Action Plan in the consideration of such proposals. Restoration schemes will also need to balance this potential with other restoration issues on the site taking account of the other proposals relating to this Preferred Area.**

- **Environmental Assessment –** Any proposal for mineral working over the whole Preferred Area which is in excess of 25 ha, would be a Schedule 1 development under Town and Country Planning (Environmental Impact Assessment) Regulations 1999. An Environmental Impact Assessment (EIA) may be required for any lesser proposal for mineral working within the Preferred Area as this would be a Schedule 2 development. Although not within a 'sensitive area' as defined in Regulation 2(1) there is likely to be significant effects on the environment due to the scale and duration of operations and in particular if extraction involves more than 30,000 tonnes per year. Any proposal for mineral working within the Preferred Area, over 25 ha will require an EIA. **Any proposal for mineral working within the "Preferred Area" less than 25 ha should also be accompanied by an EIA. Subject to the provisions of a 'screening opinion' under the Regulations, an EIA should accompany any major application for mineral working less than 25 ha within the Preferred Area, as development under Schedule 2 likely to have significant effects on the environment**.

- **Operational - Any proposals for mineral extraction from the Lady Lamb Farm land, comprising the separate parcel of land in the north west of the Preferred Area, would require that all mineral removed should be processed through plant located in the mineral working areas to the south east of the existing lane (classification 3/173).**

INSET PLAN 8.
HORCOTT/LADY LAMB FARM



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Scale: 1:10,000

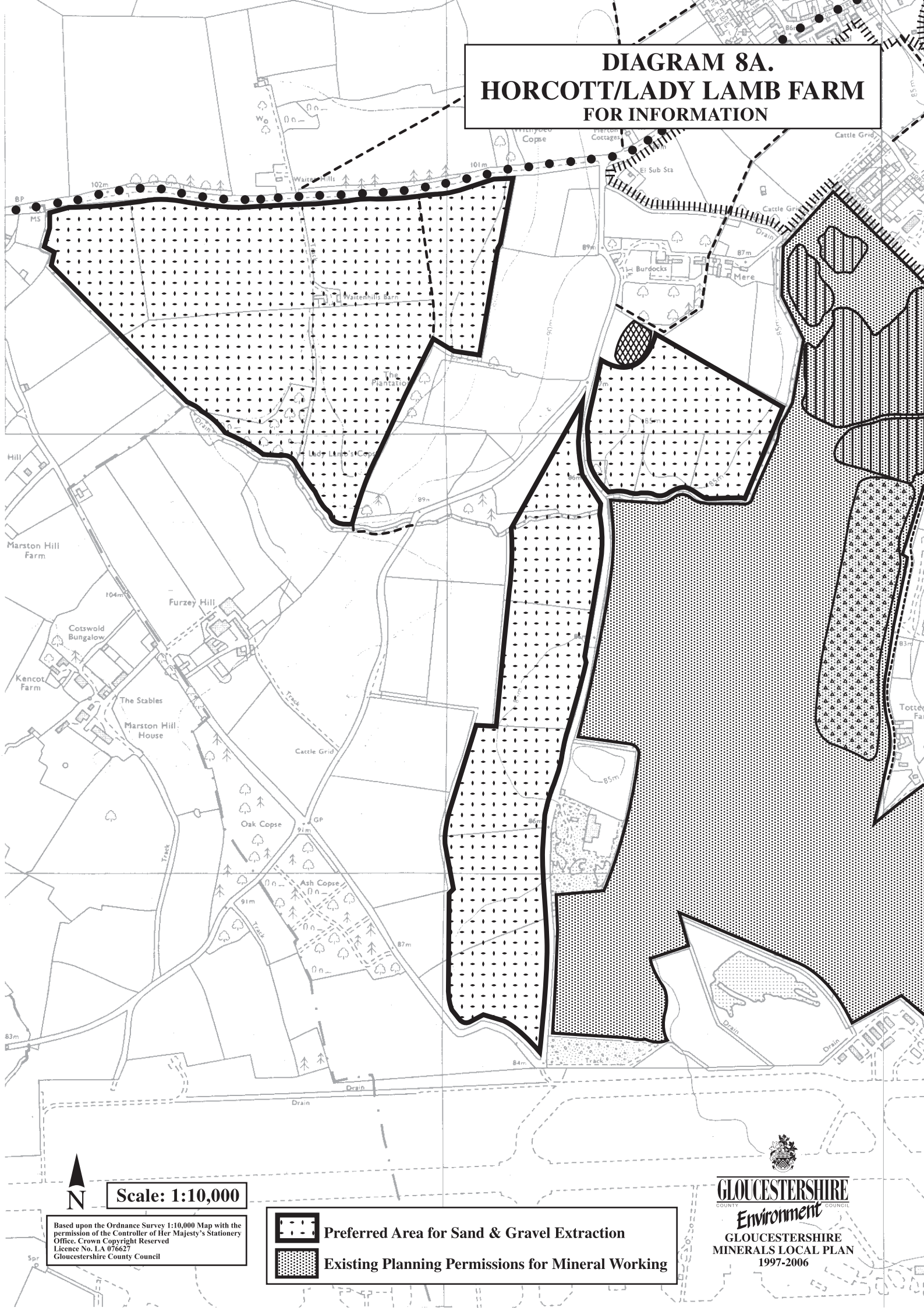
Preferred Area for Sand & Gravel Extraction

Existing Planning Permissions for Mineral Working

GLOUCESTERSHIRE COUNTY COUNCIL
Environment

GLOUCESTERSHIRE MINERALS LOCAL PLAN 1997-2006

DIAGRAM 8A.
HORCOTT/LADY LAMB FARM
FOR INFORMATION



Preferred Area for Sand & Gravel Extraction

Existing Planning Permissions for Mineral Working

GLOUCESTERSHIRE COUNTY COUNCIL
Environment

GLOUCESTERSHIRE MINERALS LOCAL PLAN 1997-2006

No. 9 **Sand & Gravel**
Kempsford/Whelford – Preferred Area

Location:

This area lies directly to the east of Fairford Airfield and the Whelford - Kempsford road, between, and adjoining, the River Coln and the settlements of Whelford and Kempsford. It terminates eastwards against a clay ridge that runs between Brazen Church Hill and Dudgrove Farm.

Site Description:

The area comprises land that was defined in Areas of Search (C) and (D) in the UTPR (1993) but is without planning permission (see Planning History). The Preferred Area is principally flat lying agricultural land; the northern part of the area is bisected by the River Coln. The northern end of the area adjoins existing and past major sand and gravel workings that stretch between Fairford and Lechlade alongside the A417. Immediately to the west lies Fairford Airfield.

Grid Reference: SU 19 NE **Site Area:** 185 hectares

Geological Resource:

The area lies on deposits of the First Terrace bordering the River Thames. Beneath these deposits lies Oxford clay which also forms the low ridge bordering the eastern edge of the area. Existing planning permissions indicate the terrace deposits reach a thickness of 6 metres but that depths are generally no greater than 3 metres and thinning eastwards. Overburden appears to be no more than 0.5 metres.

Potential Mineral Yield:

Up to 6 million tonnes.

Type of Proposal:

Extraction of sand and gravel; possibly as an extension to existing sand and gravel workings (see planning History).

Planning History:

Several planning permissions have been granted for sand and gravel extraction since the Area of Search designation in the UTPR (1993). 19 hectares at Stubbs Farm is currently being worked for both sand and gravel and clay. An additional permission has been granted to the west of these workings within the Preferred Area, but is subject to the completion of a legal agreement. Permission has also been given for sand and gravel extraction at Manor Farm to be followed by progressive restoration to agriculture. However, it has not yet been worked. Similarly, there is a further permission at Dudgrove Lane adjoining the Claydon Pike/Warren Farm Pit lying to the north of the area which is yet to be worked.

ENVIRONMENTAL CONSTRAINTS [See Plan 9A]				
Category of Constraint	**Principal Policy E1**	**Primary Policy E2, – 3,4,5,6,7,11 12, & 13**	**Secondary Policy E8, 9, 10.**	**Other Policy E14 - 21, DC1 - 6**
Landscape	None	None	None	N/A
Nature Conservation	None	Site of Special Scientific Interest: *Lake 11 - Cotswold Water Park.*	Gloucestershire Wildlife Trust Key Sites: *Lake 14 – Cotswold Water Park. Jenner's Farm Field*	Tree Preservation Order: *N^{o} 3.*
Archaeology	None	Scheduled Ancient Monument: *SMR 349* National Areas of Archaeological Importance: *SMR 2424, 3004, 3156 and 3273.*	Local Areas of Archaeological Importance: *SMR 3033, 3052, 3157, 3163, 3064 & 9297*	N/A

ENVIRONMENTAL CONSTRAINTS [See Plan 9A]				
Category of Constraint	**Principal Policy E1**	**Primary Policy E2, – 3,4,5,6,7,11 12, & 13**	**Secondary Policy E8, 9, 10.**	**Other Policy E14 - 21, DC1 - 6**
Historic Built Environment	N/A	Conservation Areas: *Kempsford*	N/A	N/A
Water Environment	N/A	Groundwater Vulnerability: *Minor Aquifer.*	N/A	N/A
Agricultural Land	N/A	Agriculture Land Grade: *Grade 2 – 60%* *Grade 3a – 10%* *Grade 3b – 30%*	None	N/A
Highways	N/A	N/A	N/A	Local Highways Network: *A419 - Preferred route for long distance lorry traffic.*
Public Access	N/A	N/A	N/A	Public Rights of Way: *BKD 16, 28, 27.*
Local Amenity	N/A	N/A	N/A	Settlements/Properties: *Fairford, Whelford, Kempsford, Jenner's Farm, Whelford Mill, Moor Ground Cottages, Townsend Farm, adjacent to Fairford Airfield.*
Tourism and Recreation	N/A	N/A	N/A	Tourist Facility: *Cotswold Water Park.*
Other	N/A	N/A	N/A	Thames - Severn Canal Protection Line

Proposals:

- **Agriculture -** This area comprises agricultural land, which is mapped predominantly as being principally the best and most versatile land. However, along the River Coln the land either side drops to Grade 3a. **Therefore release of such land for sand and gravel extraction will be subject to its physical characteristics being restored as far as it is practicable to do so, to what they were when it was last used for agriculture.**

- **Archaeology -** Cropmarks in the area indicate an extensive landscape of Prehistoric and Roman settlement with two areas of particular complexity. The whole is of high archaeological potential with the two areas potentially of national importance in the vicinity of Kempsford which will be considered for scheduling as ancient monuments by English Heritage. The range of periods represented in this area suggests that further land in this area may also merit scheduling. **Outside areas of national importance [which are to be safeguarded from mineral working] applications for mineral extraction must be accompanied by an archaeological evaluation to identify fully any archaeological constraints present, and indicate how, either by in situ preservation, or by a programme of archaeological investigation for remains of lesser significance, the impact of mineral extraction on the archaeological remains will be mitigated.**

- **Ecology** – Lake 11 which is adjacent the Preferred Area is an SSSI. **Species rich hedges should be retained and their local Biodiversity preserved. In addition the relationship between ecology and drainage of the area should not be adversely affected (in particular with Jenner's Farm Field Key wildlife site) by sand and gravel extraction. Further ecological studies may be required; particularly in relation to wooded areas**.

- **Highways - Access to this area would be required to be made directly from the Cotswold Water Park "Eastern Spine Road," and developer contributions will be required for improvements to the Eastern Spine Road**.

- **Hydrology -** The River Coln bisects the area and has a significant flood plain. **There must be no obstruction of flood flow routes or storage capacity. Dudgrove Brook also flows across the area and as a main river must, along with the River Coln, be retained in an undisturbed corridor agreed with the EA. In addition a ground and surface water-monitoring scheme must be implemented at least two years prior to extraction.**

- **Landscape - There is ample scope for mineral working to provide for significant local amenity/landscape enhancement of the area around the northern fringes of Kempford. In addition, in the area flanking the southern banks of the Coln, the possibility of preserving the character of a small scale field pattern should be considered**.

- **Settlements - Whelford and Kempsford must be safeguarded; the Settlement Protection Areas defined about these settlements on the Proposals Map of the UTPR [1993] represents an appropriate 'buffer zone' in both landscape and amenity terms, and is consistent with the MLP policies on the matter.**

- **Restoration - Restoration schemes accompanying any proposal for mineral working will need to incorporate opportunities for meeting Local and National Biodiversity targets. The MPA will be guided by the Gloucestershire Biodiversity Action Plan and Cotswold Water Park Biodiversity Action Plan in the consideration of such proposals. Restoration schemes will also need to balance this potential with other restoration issues on the site taking account of the other proposals relating to this Preferred Area.**

- **Environmental Assessment –** Any proposal for mineral working over the whole Preferred Area which is in excess of 25 ha, would be a Schedule 1 development under Town and Country Planning (Environmental Impact Assessment) Regulations 1999. An Environmental Impact Assessment (EIA) may be required for any lesser proposal for mineral working within the Preferred Area as this would be a Schedule 2 development. Although not within a 'sensitive area' as defined in Regulation 2(1) there is likely to be significant effects on the environment due to the scale and duration of operations and in particular if extraction involves more than 30,000 tonnes per year. **Any proposal for mineral working within the Preferred Area, over 25 ha will require an EIA. Any proposal for mineral working within the "Preferred Area" less than 25 ha should also be accompanied by an EIA. Subject to the provisions of a 'screening opinion' under the Regulations, an EIA should accompany any major application for mineral working less than 25 ha within the Preferred Area, as development under Schedule 2 likely to have significant effects on the environment.**

INSET PLAN 9.
KEMPSFORD / WHELFORD

KEMPSFORD CP

Whelford

College Farm
Lane End
Whelford Mill
Watersmeet
Cattle Grid
Mill Farm
Townsend Farm
Church Farm
School Cottages
Great Farm
Poultry Farm
The Bungalow
Jenner's Farm
Bowmoor Plantation
Dudgrove Farm
Ham Barn
Manor Ham Barn
Brazen Church Hill
Canal (disused)
Enclosure
Washpool Lane (Track)
Tuckwells Farm
Shannondale
Allot Gdns
The Knoll
Whelford Road
Sewage Works
Tank
Wr Twr
Ch
Track
Drain
Canal

N

Scale: 1:10,000

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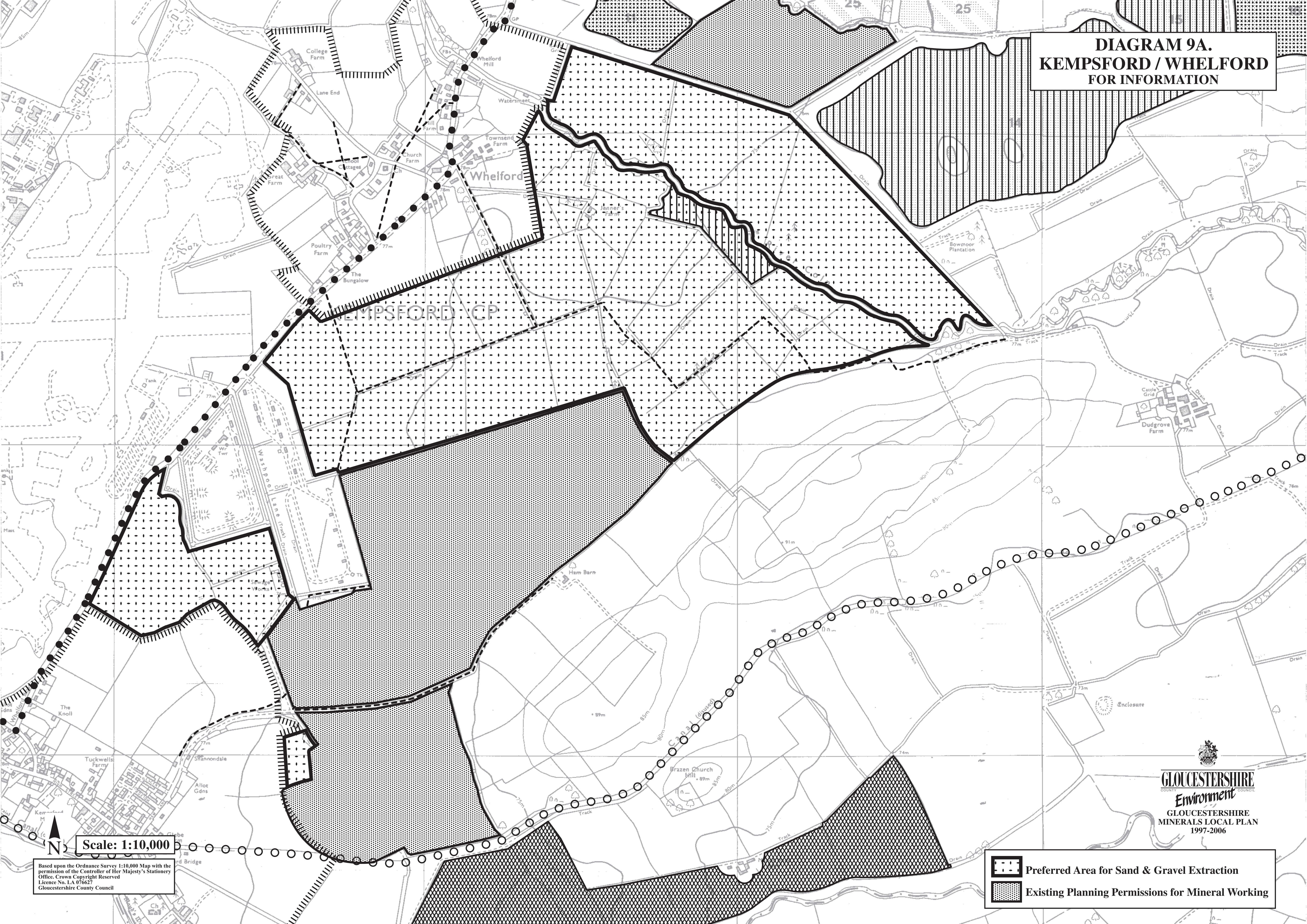
GLOUCESTERSHIRE MINERALS LOCAL PLAN 1997-2006

Preferred Area for Sand & Gravel Extraction

Existing Planning Permissions for Mineral Working

DIAGRAM 9A. KEMPSFORD / WHELFORD
FOR INFORMATION



Whelford
KEMPSFORD CP
College Farm
Lane End
Whelford Mill
Watersmeet
Townsend Farm
Church Farm
School Cottages
Great Farm
Poultry Farm
The Bungalow
Jenner's Farm
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Dudgrove Farm
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Enclosure
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Brazen Church Hill
Canal (disused)
Washpool Lane (Track)
Sewage Works
The Knoll
Tuckwells Farm
Shannondale
Allot Gdns
N
Scale: 1:10,000
Preferred Area for Sand & Gravel Extraction
Existing Planning Permissions for Mineral Working
GLOUCESTERSHIRE COUNTY COUNCIL
Environment

GLOUCESTERSHIRE MINERALS LOCAL PLAN 1997-2006

Appendix A
GLOUCESTERSHIRE MINERALS LOCAL PLAN POLICIES

Chapter 2 - Safeguarding and Enhancing the Environment

Policy E1

Proposals for mineral development will not be permitted where they are likely to have a significant adverse effect on the integrity of the following designated areas:

1. **Ramsar,**
2. **Special Areas of Conservation [including candidate SACs],**
3. **Special Protection Areas [including potential SPAs].**

Policy E2

Mineral development within Areas of Outstanding Natural Beauty will only be permitted in exceptional circumstances. Proposals will need to demonstrate that the following criteria can be met:

1. **there is an overriding national need for the mineral,**
2. **it is in the public interest,**
3. **it does not adversely affect the local economy,**
4. **there are no less environmentally constrained alternative sources of supply which could be developed at reasonable cost,**
5. **it can be shown that any adverse visual and landscape impacts of the development can be mitigated by the imposition of conditions and/or through planning obligations, and**
6. **that landscapes can be restored and, where possible, enhanced in the longer term.**

Policy E3

Proposed mineral development, which detrimentally affects Sites of Special Scientific Interest and/or National Nature Reserves and their settings will only be permitted where other material factors are sufficient to override nature conservation considerations; the overriding national need for the mineral can be demonstrated; it is in the public interest; there are no alternative less environmentally constrained sites; and it can be shown that the effects can be adequately mitigated by the imposition of conditions and/or through the negotiation of planning obligations.

Policy E4

Proposed mineral development will not be permitted where it would involve significant alteration or cause damage to nationally important archaeological remains (whether scheduled or not) or would have a significant impact on the setting of visible remains; unless the effects can be adequately mitigated.

Policy E5

Proposed mineral development, which is likely to harm the preservation of any Listed Building, their settings or any features of special architectural or historic interest which they possess, or the preservation or enhancement of the character or appearance of any Conservation Area will not be permitted unless the negative effects can be satisfactorily mitigated.

Policy E6

Proposals for mineral development which is likely to adversely affect Registered Historic Parks and Gardens and/or Battlefields will not be permitted unless the effects of the development can be satisfactorily mitigated.

Policy E7

Proposals for mineral development, which result in the permanent loss of the best and most versatile agricultural land (grade 1 – 3a) will only be permitted in exceptional circumstances, if there is an overriding need for the development, and either sufficient land in lower grades is unavailable or available lower grade land has an environmental value which may be recognised by a statutory landscape, wildlife, historic or archaeological designation and outweighs the agricultural considerations.

Policy E8

Proposals for minerals development which are likely to have a significant adverse effect on the following locally and regionally important areas must, where appropriate, make provision to safeguard or satisfactorily mitigate those impacts and, where possible, enhance their attributes in the long-term:

1. **Special Landscape Areas;**
2. **Local Nature Reserves;**
3. **Key Wildlife Sites;**
4. **Wildlife Corridors;**
5. **Regionally Important Geological/Geomorphological Sites (RIGS);**
6. **Ancient Semi Natural Woodland;**
7. **Locally Important Archaeological Sites and Settings, and other features of the historic environment;**
8. **Locally Important Parks & Gardens**

Policy E9

Proposed mineral development will only be permitted within the Green Belt, where it is carried out to the highest environmental standards, is restored to a beneficial after-use and is in accordance with all other relevant policies of this Plan. In the case of minerals development which would be inappropriate in the Green Belt there will be a requirement to demonstrate that very special circumstances exist to justify it.

Policy E10

In determining proposals for mineral development, the MPA will be guided by the contribution to local biodiversity and where appropriate will seek long-term overall enhancement to local biodiversity through restoration or by other means i.e. by the attachment of conditions or negotiation of planning obligations.

Policy E11

Mineral development which is likely to have a significant negative quantitative and/or qualitative impact on the water environment, will not be permitted unless appropriate measures can be imposed to mitigate any harmful effects.

Policy E12

Mineral development which increases the risk of flooding and has a material negative impact on the storage or flow capacity of the floodplain, will be permitted only where the risk or impact can be obviated.

Policy E13

Where mineral working is to be permitted, an appropriate buffer zone must be retained between the mineral working and adjacent significant watercourses to preserve the integrity of the water corridor in terms of conservation and landscape. The size and landscape treatment of the buffer zone will depend on the characteristics of the area and details of the proposals.

Policy E14

In order to safeguard sensitive land-uses, proposed mineral development will not be permitted within an appropriately defined buffer zone. The following matters will be taken into account when delineating the buffer zone at the application stage of development:

1. **topography of the site and surrounding areas,**
2. **natural and manmade features, which may reduce the impact of development, for example landscape features, roads, railway lines etc.**
3. **the proximity of the proposed development to sensitive land-uses,**
4. **duration and direction of the proposed working, and**
5. **location of Plant and other ancillary development.**

Policy E15

Proposed mineral development, which adversely impacts on local communities and other sensitive land-uses, will not be permitted within Settlement Protection Boundaries identified in the Cotswold Water Park.

Policy E16

The contribution or impact that proposals for mineral development are likely to make to the social and economic well-being or otherwise of local communities will be a material consideration in assessing their suitability.

Policy E17

Mineral development, which affects defined public rights of way, will only be permitted if provision is made for an appropriate diversion unless, in exceptional circumstances, the Mineral Planning Authority considers that such a diversion is not required. Wherever possible long-term reinstatement or suitable replacement of public rights of way will be secured. In addition, the Mineral Planning Authority will not permit proposals, which are likely to materially affect National Trails.

Policy E18

Where appropriate, proposals for mineral development should consider the scope to provide opportunities for:

1. **the creation of new public rights of way and/or open space, or**
2. **the improvement of public access, or**
3. **the reconstruction, restoration and/or safeguarding of protected lines of affected canals.**

Policy E19

Proposed mineral development will not be permitted where the method of transporting minerals will give rise to an unacceptable impact on the local environment. Mineral operators must demonstrate, by a detailed transport appraisal, that the safest and least environmentally damaging methods of transporting minerals from extraction/production sites to markets, that are practically achievable, are used.

Policy E20

Mineral development will only be permitted when the provision for vehicle movement within the site, the access to the site, and the condition of the local highway network are such that the traffic movements likely to be generated by the development would not result in unacceptable impact on highway safety, the effective operation of the road network, residential amenity or the local environment. In assessing the likely impact of traffic movements, account will be taken of any highway improvements, traffic management or other mitigating measures which may be provided in association with the development.

Policy E21

Existing and disused railhead and wharves will be safeguarded where they have potential for the exportation and importation of minerals and secondary/recycled aggregates.

Policy A1

Subject to the assessment of the environmental, social and economic impact of mineral working, the Mineral Planning Authority will endeavour to maintain a landbank that reflects the local apportionment of the Regional Guidelines.* The local apportionment during the Plan period is represented on an average annual basis as a provision of:

1. **3.17 mt per annum of Crushed Rock [limestone]**
2. **1.29 mt per annum of Sand and Gravel**

Policy A2

The Mineral Planning Authority will endeavour to maintain a landbank of reserves for the winning and working of aggregate minerals throughout and at the end of the Plan period in accordance with National and Regional Guidance. This landbank will be:

1. **at least 7 years for Crushed Rock [limestone]; and**
2. **at least 7 years for Sand and Gravel.**

Policy A3

Proposed aggregate mineral working within the Preferred Areas defined in this Plan will be permitted only where:

1. **they contribute to maintaining the County's appropriate contribution to local, regional and national aggregate needs including the maintenance of a landbank in accordance with policy A2,**

2. **and the application satisfactorily fulfils the requirements of the Proposals for that Preferred Area as identified with the Inset Maps.**

3. **and they are in accordance with all other policies of this plan, in particular policies relating to Environment, Reclamation and Development Control.**

Policy A4

Proposed aggregate mineral working outside the Preferred Areas defined in this Plan, will only be permitted where they are in accordance with and will secure the effective implementation of the objectives and other policies of the Plan by providing for either:

A. **The provision of aggregates not found in the Preferred Areas defined in this Plan where it can be demonstrated that the mineral is of a specification, or will meet a forecast shortfall, which is required to maintain the County's appropriate contribution to local, regional and national need, and where it is demonstrated that such provision would be significantly more acceptable overall than a site or sites in a Preferred Area.**

* Annex A of MPG 6 (April 1994)

Or,

B. In relation to existing mineral development:

1. the enhancement of the surrounding environment or amenity, and/or;

2. an improvement or enhancement of reclamation and after-use opportunities, and/or;

3. the completion of working of a residual area of mineral resource that would be impractical to exploit in any other way.

Policy A5

Additional land for aggregates mineral working in the Forest of Dean to meet the future Crushed Rock requirements of this Plan are identified as Preferred Areas at:

East of Stowe Hill/Clearwell Quarry;
West of Drybrook Quarry; and
North and East of Stowfield Quarry.

Policy A6

Additional land for aggregates mineral development in the Cotswolds to meet the future limestone requirements of this Plan are identified as Preferred Areas at:

Northeast of Daglingworth Quarry; and
West, North and East of Huntsman's Quarry.

Policy A7

Additional land for aggregate working in the Upper Thames Valley to meet the future sand and gravel requirements of this Plan are identified as Preferred Areas at:

1. **Dryleaze Farm,**
2. **Cerney Wick,**
3. **Horcott [including Lady Lamb Farm],**
4. **Kempsford – Whelford.**

Policy NE1

Proposals for sandstone and limestone mineral working for natural building stone by extensions to existing workings, at new "greenfield" sites, or at sites where no valid planning permission exists, will only be permitted where:

1. **it can be demonstrated that needs for the local stone cannot be met adequately from existing reserves and that the proposals are for predominately the production of natural building stone; and**

2. **the need for the stone together with other planning benefits outweighs any adverse environmental, local amenity and other impacts of its winning and working; and**

3. **any crushing or screening of stone or overburden is confined to that removed in order to work the natural building materials and which cannot be used in the landscaping or reclamation of the site; and**

4. **they are in accordance with all other policies of this plan, in particular policies relating to Environment, Reclamation and Development Control.**

Policy NE2

Proposals for the working of clay will be permitted where its use for a specific purpose outweighs any adverse environmental, local amenity, or other impacts that the development would be likely to have, and would not prejudice the other policies of this Plan.

Chapter 5 – Energy Minerals

Policy EM1

Proposals for the extraction of coal by opencast methods and the disposal of colliery spoil will not be permitted unless they satisfy all the following criteria:

1. **there is no unacceptable detrimental effect on the local environment, including public access, on neighbouring land-uses, settlements or on those related to economic regeneration,**
2. **provision is made for the environmentally acceptable transportation of coal and other materials in accordance with policy E20 of this plan,**
3. **the tourism and recreation role of the Forest of Dean is not prejudiced, and**
4. **they are in accordance with all other policies of this plan, in particular policies relating to Environment, Reclamation and Development Control.**

In the case of proposed extensions to existing coal extraction sites, the cumulative impact of the development on all aspects of the environment will be considered.

If the proposal does not satisfy the above criteria and adverse impacts are identified, then the development proposed will not be permitted unless it

incorporates opportunities to benefit the environment, amenity and community of the Forest of Dean and that those benefits would outweigh the adverse impacts.

Policy EM2

Proposals for small-scale coal underground mines, which contribute to the cultural and industrial heritage of the Forest of Dean will be permitted where they are environmentally acceptable in accordance with the other relevant policies of this Plan.

Policy EM3

Proposals for the working of coal will not be permitted unless disposal of colliery spoil or overburden does not result in unacceptable harm to the environment, as guided by all relevant policies of this Plan.

Policy EM4

Old colliery spoil tips, which contribute to the landscape quality, wildlife interest and/or industrial heritage of the Forest of Dean, will be safeguarded from mineral development that could potentially damage or destroy them. Such development will only be permitted where it will enhance old colliery spoil tips, and is in accordance with all other relevant policies of the Plan.

Policy EM5

Proposals for the reworking of old colliery spoil tips for either coal or secondary (waste) materials will not be permitted unless they are environmentally acceptable in accordance with other policies in this Plan and they provide opportunity for environmental enhancement.

Policy EM6

Proposals for the appraisal and development of oil and gas resources identified by exploration will be permitted where the development does not adversely affect the environment or harm local communities and accords with all other relevant policies of this Plan.

Policy EX 1

Proposals for the exploration of mineral resources will be permitted, for a temporary period, subject to satisfactory environmental safeguards, including full reinstatement following completion of operations.

Chapter 7 – Safeguarding and Efficient Use of Mineral Resources

Policy SE 1

Proposals for the processing or recycling of secondary (waste) minerals, either using such minerals present on the site, or imported to the site, will be permitted where it is environmentally acceptable in accordance with the other policies in this Plan and provided that the long-term beneficial restoration of the site is not prejudiced.

Policy SE 2

When considering proposals for future mineral development the Mineral Planning Authority will have regard to the need to reduce mineral waste materials and will require the use of any waste and/or low grade material arising from mineral operations for:

1. **on site development [eg. landscaping, site roads improvements and restoration]; then**
2. **construction purposes to substitute for primary materials wherever environmentally and technically acceptable.**

Policy SE3

The Mineral Planning Authority will object to any development proposals within, or adjacent to, areas of potential mineral resource which would unnecessarily prevent, or prejudice, potential future mineral extraction unless it is satisfied that the land affected:

1. **does not contain potentially workable mineral deposits,**
2. **there is an overriding need for the development,**
3. **the mineral cannot practically be extracted in advance, and**
4. **the extraction of the mineral is not in accordance with all other policies within this Plan.**

Policy SE4

Proposals for mineral extraction prior to other types of development that may otherwise sterilise potential mineral resources will be permitted only where, it would not prejudice the development of the land and would take place within a reasonable timescale in relation to the proposed non-mineral development.

Chapter 8 – Reclamation of Worked Out Mineral Sites

Policy R1

Proposals for mineral development will only be permitted if they are accompanied by a reclamation scheme that provides for the following matters to be taken into account:

1. **the site will be operated to ensure that the proposed reclamation scheme will be successful,**
2. **waste materials arising from the extraction of minerals on site are utilised to restore the site,**
3. **the restoration is completed at the earliest opportunity and, where practicable, progressive restoration is carried out,**
4. **other measures to minimise the disturbance to adjacent land-uses are included,**
5. **harm arising from traffic generated by the reclamation is minimised,**
6. **the surrounding topography is considered to ensure that the site is sensitively reclaimed in keeping with the character of the local area,**
7. **where appropriate, measures to protect local, regional and national sites of acknowledged importance are included, and**
8. **the reclamation of the site provides for environmental and landscape enhancement as guided by Policy R2 of this Plan.**

Policy R2

Mineral operators will be required to facilitate realistic proposals for after-use as part of the reclamation scheme. Proposals will, where appropriate:

1. **enhance the local character of the area,**
2. **benefit the local community,**
3. **support and diversify the local economy,**
4. **improve the local environment by providing increased public access to the countryside and recreation and creating public open space,**
5. **support and enhance national, regional and local biodiversity,**
6. **restore best and most versatile agricultural land back to grade,**
7. **be innovative.**

All after-use proposals must be acceptable in terms of traffic impact, both on the highway and on local communities.

Policy R3

Worked out mineral sites will be reclaimed at the earliest opportunity to an approved beneficial after-use, and wherever practicable progressive restoration will be required.

Policy R4

Reclamation proposals, which will significantly enhance the environment of worked-out mineral sites that have not been reclaimed to a standard satisfactory to the Minerals Planning Authority will be permitted, where the proposal accords with all other relevant policies of this Plan.

Chapter 9 – Development Control Criteria for Future Mineral Development

Policy DC1

Mineral development will only be permitted where the applicant has demonstrated, to the satisfaction of the MPA in consultation with other relevant pollution control agencies, that any potentially adverse environmental and/or pollution effects are capable of satisfactory control and/or mitigation, or elimination.

Policy DC2

Ancillary development to proposed or permitted mineral development must satisfy the following requirements that:

1. **it is directly related to the extraction of the mineral,**
2. **its design, size and location should, as far as practicable, be in keeping with the character of the surrounding area,**
3. **it does not have a significantly adverse impact on the amenity of adjacent land-uses,**
4. **its life should be limited to that of the mineral working and where appropriate, is dismantled in accordance with the restoration proposal,**
5. **where appropriate it should allow for the processing of secondary (waste) minerals, and**
6. **it is in accordance with other policies contained in this Plan.**

Policy DC3

The importation of natural materials to mineral sites will only be permitted where it is environmentally acceptable and it can be demonstrated that there is insufficient suitable waste products arising from the mineral development to carry out all or any of the following:

1. **the provision of improved landscaping to enhance the environment and safeguard local amenity,**
2. **the construction of baffle mounds,**
3. **the construction and maintenance of site roads,**
4. **to secure a beneficial afteruse for the worked out mineral site.**
5. **In the case of brickmaking, additional natural minerals which facilitate the utilisation of minerals extracted on the site.**

Policy DC4

Mineral development or reclamation proposals for worked out mineral sites, which may pose a hazard to any civilian or military aerodromes will not be permitted.

Policy DC5

The Mineral Planning Authority will seek to enter into planning obligations with mineral operators to mitigate the negative impacts of mineral development which cannot be satisfactorily resolved by conditions attached to planning permissions. The following may be considered appropriate matters, if they fall within the tests of Circular 1/97, for inclusion in a planning obligation where related to the proposal:

1. **highways and access improvement (including maintenance),**
2. **traffic restrictions,**
3. **environmental enhancement [including landscaping, habitat and species protection and creation],**
4. **protection and/or replacement of locally, regionally and nationally important sites of acknowledge importance,**
5. **replacement of important environmental and landscape features,**
6. **protection of local amenity,**
7. **replacement of local community facilities, for example open space, sports and recreation facilities,**
8. **protection of other natural resources, for example, the water environment,**
9. **long-term management and restoration of site, afteruse and monitoring, and/or**
10. **revocation and consolidation of planning permission.**

Policy DC6

The Minerals Planning Authority will seek mineral operator contributions for road improvement if they fall within the tests of Circular 1/97, in proportion to the mineral anticipated to be extracted, where mineral development would generate lorry traffic on the Cotswold Water Park Eastern Spine Road.

Policy DC7

Proposals for temporary borrow pits will be permitted where:

1. **it is required for a specific construction project,**
2. **the proposed site is located in close proximity, preferably contiguous to the specified project,**
3. **it would minimise disruption to local communities,**
4. **the site will be satisfactorily reclaimed on completion of the specified project,**
5. **it can be demonstrated that it will be less environmentally damaging than importing the required material from mineral sites which already have planning permission, and**

it is in accordance with all other policies of this Plan, in particular Environment, Reclamation and Development Control.

Appendix B
GLOUCESTERSHIRE STRUCTURE PLAN SECOND REVIEW (Adopted November 1999)
MINERALS POLICIES

POLICY M.1

In assessing proposals for the release of land for mineral working account will be taken of the quality, quantity and location of the minerals involved, and the period over which they will be worked to ensure that the least environmentally damaging sources of supply within the County are used. In particular, suitable extensions of existing mineral workings will be given preference to the development of new mineral workings or the reopening of disused ones.

POLICY M.2

In order to reduce the demand on finite resources, proposals that promote the greater use of secondary, waste and recycled materials as an alternative to primary aggregates will be encouraged where environmentally acceptable.

ENVIRONMENT

POLICY M.3

In making provision for the supply of minerals, and taking into account national and regional guidance, the appropriate degree of protection must be afforded to;

(a) Internationally, nationally, regionally and locally important areas of landscape, nature conservation, archaeological interest, and

(b) Important natural resources including agricultural land and the water-based environment.

POLICY M.4

Provision for mineral working must ensure that:

(a) the amenity of local communities and access to the countryside is safeguarded and wherever possible enhanced;

(b) pollution of land, water and air is prevented; and

(c) worked out land is reclaimed to a state suitable for beneficial after-uses.

POLICY M.5

Provision for mineral working must use a method of transporting minerals from extraction/production sites to markets that has the least environmental impact including alternatives to road transport, unless shown to be impracticable or not economically feasible.

RESOURCES

POLICY M.6

Potential workable mineral resources will as far as possible be safeguarded from sterilisation by other forms of development. Where appropriate, the extraction of minerals before other more permanent forms of development has taken place, will be encouraged.

SUPPLY

POLICY M.7

Provision will be made to maintain an appropriate contribution to local, regional and national aggregate needs, together with an appropriate landbank, consistent with national and regional guidelines, including the principles of sustainable development.

SAND AND GRAVEL

POLICY M.8

The need for sand and gravel will be met principally by the continued working of deposits in the Upper Thames Valley.

NATURAL BUILDING PRODUCTS

POLICY M.9

Provision will be made for the supply of limestone and sandstone for natural building stone where needs for local stone cannot be met by existing mineral workings and full account has been taken of all environment factors.

COAL

POLICY M.10

Provision for the supply of coal, worked by opencast methods will not be made unless it can be demonstrated that it will not have an unacceptable adverse impact on the recreational or tourism role of the Forest of Dean, on environmental or traffic conditions, or on settlements and neighbouring land-uses. In addition this will only be made where it provides opportunity for significant community/environmental benefits in the long term for the Forest of Dean, that outweighs unacceptable adverse impacts. Provision for small-scale underground extraction should continue where it is environmentally acceptable.

Please note that readers should refer to the latest version of the Structure Plan as the above policies will be subject to review with time.

Appendix C1
GLOSSARY

Aftercare	—	The treatment of land following restoration [as defined below] to bring it up to the required standard for use for agriculture, forestry or amenity. Such treatment may include planting, cultivating, fertilising, watering, draining or otherwise treating the land [MPG7].
After-use	—	The ultimate use after mineral working for agriculture, forestry, amenity, industrial and other development [MPG7].
Aggregate	—	Inert particulate matter which is suitable for use [on its own or with the addition of cement or bituminous material] in construction as concrete, mortar, finishes, roadstone, asphalt or drainage course, or for use as constructional fill or railway ballast [DETR].
Agricultural Land Classification (ALC)	—	The Ministry of Agriculture, Fisheries and Food [MAFF] have developed a method for classifying agricultural land by grade according to the extent to which its physical or chemical characteristics impose long term limitations on agricultural use for food production. The MAFF ALC system classifies land into five grades numbered 1 - 5, with grade 3 divided into two sub-grades [3a and 3b] [PPG7].
Amenity Use	—	A broad category of after-use which may include open grassland for informal recreation, basic preparation for more formal sports facilities, amenity woodland, lagoons for water recreation and the conservation of landscape and wildlife [MPG7].
Ancient Woodland Site	—	Sites where ASNW have been replaced, often with conifers. These also often contain many of the characteristics for which ASNW is important such as rich ground flora.
Ancient Semi-Natural Woodland	—	Ancient semi-natural woodland (ASNW)" - Sites which have had a continuous woodland cover, with native tree and shrub species since at least 1600AD to the present day which have not obviously been planted and derive from natural regeneration or coppicing
Ancillary Development	—	Development ancillary to mining operations is the erection, installation, extension, rearrangement, repair or other alteration of any plant, machinery, building, structures or erections whose principle purpose in connection with the operation of the mine is the winning and working of minerals, their treatment, preparation for sale, consumption or utilisation, or the storage or removal from the mine of such minerals, their products or waste materials derived from them [GPDO, 1995].
Apportionment	—	The division of the Regional Guidelines [contained in Annex A of MPG6] between the individual MPA areas comprising each region. Also referred to as the sub-regional apportionment.
Aquifer	—	Geological strata which contain groundwater in exploitable quantities [Environment Agency].
Area of Outstanding Natural	—	Areas designated by the Countryside Commission subject to

Appendix C1
GLOSSARY

Beauty [AONB]		confirmation by the Secretary of State for the Environment, under National Parks and Access to the Countryside Act 1949 - the primary objective of the designation is conservation of the natural beauty of the landscape [PPG7].
Areas of Search	—	Areas of Search offer an approach to balancing the needs of industry and local concerns about possible blight in respect of at least a proportion of the provision to be provided. Not all proposals within Areas of Search will necessarily be appropriate for mineral extraction either for economic and/or environmental reasons, but it is likely that these areas will contain some sites, which are. Within an Area of Search planning permission could be granted to meet any shortfall in supply should specific sites, preferred areas or extensions to existing sites identified in the plan not come forward.
Best & Most Versatile Agricultural Land	—	Land which should be protected as a national resource for future generations and is defined as grades 1, 2 and 3a. Such grades are the most flexible, productive and efficient in response to outputs [PPG7].
Biodiversity	—	Biodiversity is the variability among living organisms from all sources including, inter alia, terrestrial, marine, and other aquatic ecosystems and ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems ("Biodiversity – The UK Action Plan 1994)
Borrow Pit	—	A site for the extraction of aggregate minerals over a limited period for use in a specific construction project which will usually be close to or contiguous with the site of the project [DETR].
Buffer Zones	—	Area of land separating mineral development from adjoining sensitive land-uses including settlements to ensure that the amenity of these adjoining areas are not adversely affected by such forms of development.
Conservation Area	—	As designated under section 69 of the Listed Buildings Act 1990 states that: Every local planning authority - a) Shall from time to time determine which parts of their area are areas of special architectural or historic interest, the character or appearance of which it is desirable to preserve or enhance, and b) Shall designate those areas as conservation areas.
Constructional Fill	—	Fill material that will bear loads (e.g. in suitably designed embankments) as distinct from landfill to occupy voids (not specially intended to bear loads) (MPG7).
Development Control Criteria	—	The development control criteria identifies policies on matters the MPA will consider at the application stage of mineral development. It provides guidelines to the minerals industry on information, which the

Appendix C1
GLOSSARY

MPA will require in support of an application for minerals development.

Environmental Impact Assessment — An Environmental Assessment is a technique for drawing together, in a systematic way, expert quantitative analysis and qualitative assessment of a proposals environmental effects. The need for an EA is determined under the Town and Country Planning (Environmental Impact Assessment) Regulations 1999 and divides into two schedules:-

- **Schedule 1 -** development which by law must have an EA
- **Schedule 2 -** development which poses significant harm to the environment by virtue of the nature, size and location of the proposal may require an EIA.

Examination in Public — In accordance with the Development Plan Regulations 1999 an Examination in Public is convened to considered representations made on Structure Plans.

Extensions — A site for the extraction of minerals for which there has been a change in use or size of development from the original planning consent, which may need planning permission. [DETR]

Freeminer — A man born of the age of 21 and upwards and abiding within the hundred of St. Briavels, in the County of Gloucester, who has worked a year and a day in a mine and is registered as such (Glossary of Mining and Mineral Industry).

Green Belt — Designated under the 1947 Town and Country Planning Act and subsequently under the Codification of Green Belt Policy in 1955 to provide a reserve supply of public open space and of recreational areas and to prevent urban sprawl (PPG2).

General Permitted Development Order (GPDO) — General Permitted Development Order 1995. Contain the provisions relating to permitted development rights (GPDO, 1995).

Inert Waste Material — Waste which will not biodegrade or decompose (or will only do so at a slow rate). Types of materials include uncontaminated top soil; subsoil; clay; sand; brickwork; stone; silica; and glass.

Key Wildlife Sites — Areas of local nature conservation value designated by the Gloucestershire Wildlife Trust.

Landbank — A stock of planning permissions for the winning and working of minerals (refer paragraph 62 - 66, MPG6).

Landbank Period — The number of years extraction that the landbanks should cover.

Appendix C1
GLOSSARY

Landbank Requirement — The resources which have been identified or can be identified to ensure that the landbank can be maintained at the required level [dictated by the landbank period] throughout and at the end of the plan period (MPG1).

Listed Building — A building which is for the time being included in a list compiled or approved by the Secretary of State under Section 1 of the Listed Buildings Act 1990; and for the purpose of this Act -

a) any object or structure fixed to the building;

b) any object or structure within the curtilage of the building which, although not fixed to the building, forms part of the land and has done so since before July 1st 1948,

shall be treated as part of the building.

Local Biodiversity Action Plan (LBAPs) — The UK Biodiversity Action Plan 1994 states that it is the Government's strategy to prepare national action plans. The national steering group recommended the preparation of LBAPs (see also "Biodiversity").

Local Nature Reserve (LNR) — Habitats of local significance, which contribute to both nature conservation and provide opportunities for the public to see, learn and enjoy wildlife. LNRs are designated by local authorities under section 21 of the National Parks and Access to the Countryside Act 1949 (PPG9).

Mine — Any site on which mining operations are carried out; mining operations are "the winning and working of minerals in, on or under land, whether by surface or underground working" [GDPO, 1995].

Mineral Consultation Areas (MCA) — An area notified to a District Planning Authority as an area in which development is likely to affect or be affected by the winning and working of minerals other than coal. The District Planning Authority must consult the County Planning Authority for its area before determining any applications for planning permission in such an area [based upon Schedule 1 of the TCPA 1990].

Minerals Local Plan (MLP) — A Minerals Local Plan is a written statement formulating the authorities detailed policies for their area in respect of development consisting of the winning and working of minerals or involving the depositing of mineral waste [TCPA 1990].

Minerals Planning Authority (MPA) — Any Local Authority with responsibility for planning control over mineral working. Outside Greater London, metropolitan areas and the Unitary Authorities, MPAs comprise County Councils and National Park authorities [MPG1].

Mineral Planning Guidance Notes (MPG) — MPGs provide practical information and advice about planning policies, best practice and the legislation relating to minerals planning in a simple and accessible form. The Department of the Environment will have regard to this guidance in dealing with development plans, appeals and planning applications and it is expected that local planning authorities will also have regard to it in the exercise of their planning functions, including the preparation of Structure and Local Plans. The contents of individual MPGs range from general planning

Appendix C1
GLOSSARY

and procedure guidance to advice on specific issues and proposals [MPG1].

National Nature Reserve (NNR) — Areas of national and some international nature conservation importance, managed primarily to safeguard such interest in accordance with English Nature's requirements. NNR are designated under section 19 of the National Parks and Access to the Countryside Act 1949 or section 35 of the Wildlife and Countryside Act 1981 [PPG9].

National Trails — There are 12 National Trails in England created by the Countryside Commission to provide high quality long distance walking experiences. Three National Trails routes fall within Gloucestershire, Offa's Dyke, the Cotswolds Way and the Thames Path. [CCP266]

Natural Building Stone — For the purpose of this Plan, natural building stone includes building stone, walling stone, masonry stone, dimension stone, tilestone, rockery and paving stone.

Opencast Coal Mining — A coal working in which excavation is performed from the surface as in quarrying [USBM].

Overburden — The waste that overlies the good stone in a quarry [USBM].

Primary Aggregate — Naturally occurring bulk minerals worked primarily for aggregate purposes [DETR].

Plan Period — Years between 1997 and 2006 inclusive [i.e. 10 years].

Planning Obligation — Planning obligations may enable proposals to go ahead which might otherwise be refused. They should however be relevant to planning and directly related to the proposed development if they are to influence a decision on planning application. In addition, they should only be sought where they are necessary to make a proposal acceptable in land use planning terms. [Circular 1/97]

Planning Policy Guidance Notes (PPG) — PPGs set out the Governments policies on different aspects of planning. They range from key objectives, operational principles to guidance and advice on more specific issues. It is expected that local planning authorities must take their content into account in preparing structure and local plans [PPG1].

Preferred Areas — These are areas of known resources where planning permission might reasonably be anticipated by industry. [MPG 6]

Public Rights of Way (PROW) — A path, road, track, bridleway or highway over which the public has the right to pass and re-pass.

Ramsar — Listed under the Convention on Wetlands as areas of international importance especially for waterfowl habitats [PPG9].

Reclamation — Operations which are associated with the winning and working of minerals and which are designed to return the area to an acceptable environmental condition, whether for the resumption of former land-

Appendix C1
GLOSSARY

use or for a new use. Reclamation includes both restoration and aftercare as defined under the Town and Country Planning Act 1990 [MPG7].

Registered Historic Parks & Gardens — Parks and gardens registered by English Heritage due to their special Historic Interest.

Regional Guidelines — These are guidelines found in Annex A of MPG6. They indicate how provision for the supply of aggregates should be made in each region of England to meet anticipated needs to 2006.

Regionally Important Geological and Geomorphological Sites (RIGs) — In Gloucestershire RIGS are the geological equivalent of key wildlife sites. Key wildlife sites are areas of local nature conservation value designated by the Gloucestershire Wildlife Trust.

Regional Planning Guidance Note (RPG) — Regional Planning Guidance Notes are prepared by the Secretary of State for the Environment, Transport and Regions (previously the Department of the Environment). RPG 10 "Regional Planning Guidance for the South West" provides advice for the up-dating and review of development plans in the South West. [RPG10]

Reserves — Geological deposits which are the subject of valid planning permissions for extraction.

Resources — Geological deposits where economically workable minerals may prove to be present but remain as areas without planning permission.

Restoration — The treatment of an area after operations for the winning and working of minerals have been completed by the spreading of any or all of the following:- topsoil, subsoil and soil making material [MPG7].

Scheduled Ancient Monuments (SAM) — Sites and remains designated under the Ancient Monuments and Archaeological Areas Act 1979 to ensure protection from development [PPG16].

Scowles — Old workings at the outcrop of deposits of Iron ore [Glossary of the Mining and Mineral Industry].

Secondary Aggregate — Other materials usable as aggregate, which are the by-products of quarrying and mining and industrial processes [e.g. colliery waste or minestone, blastfurnace slag, power station ash, china clay sand, slate waste, demolition and construction wastes including road planings, but excluding chalk and clay/shale worked primarily for aggregate purposes][DETR].

Significant — The term represents a measure of the impact of a proposal by virtue of factors such as its nature, size or location on natural systems, man-made artefacts or human interests and concerns. It is assessed upon a combination of scientific criteria, comparison of predicted effects with established environmental quality standards, thresholds and designations and the interpretation of other planning and environmental policies. Assessment takes into account the duration, extent and nature of the impacts against the magnitude or scale of

predicted change.

Site of Special Scientific Interest (SSSI) — Designated by English Nature under the provision of the Wildlife and Countryside Act 1981 to protect flora, fauna, geological or physiographical features. All sites of national or international nature conservation interest are notified as SSSIs [PPG 9].

South West Regional Aggregate Working Party (SWRAWP) — One of ten Regional Aggregates Working Parties [RAWPs] in England and Wales that provide advice to the Secretary of State in relation to the supply of, and demand for, aggregate minerals. They were established in the early 1970s to identify and consider likely problems in the supply of aggregate minerals.

Each RAWP is chaired by a County Planning Officer or the equivalent, and draws members from the MPAs, the aggregates industry [by representation from the trade federation, Quarry Products Association], and the Department of the Environment/Welsh Office, along with the Department's regional offices, other Government bodies, e.g. MAFF, and other appropriate interested parties [MPG6].

Special Areas of Conservation (SAC) — Candidate and proposed - Designated with the intention to protect habitats of threatened species of wildlife, under the European Community Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora [The Habitats Directive].

Special Protection Area (SPA) — Designated under the European Community Council's Directive on the Conservation of Wild Birds to protect threatened species [PPG9].

Strategic Environmental Appraisal (SEA) — SEA is a process for testing that environmental concerns are integrated into the policy appraisal of development plan preparation [PPG12].

Structure Plan — Structure Plans set out the broad framework for planning at the local level and provide a strategic policy framework for planning and development control locally, ensuring provision for development is realistic and consistent with national and regional guidance. Structure Plans should secure consistency between local plans for neighbouring areas. [PPG 12].

Sustainable Development — General: Sustainable Development is development which meets the needs of the present generation without compromising the ability of future generations to met their own needs.....[Bruntland 1987].

In the context of the MLP - "In Gloucestershire sustainable development is about the regulation of human behaviour in order to control the use of natural resources, ensure the protection and enhancement of the environment including amenity and maintain biodiversity" [Minerals Local Plan Policy Panel -21st February, 1996].

Appendix C2
ACRONYMS AND ABBREVIATIONS

ALC	Agriculture Land Classification	The Ministry of Agriculture, Fisheries and Food's (MAFF) ALC system classifies agricultural land into five grades numbered 1 to 5 with grade 3 divided into sub-grades (3a and 3b).
AOD	Above Ordnance Datum	
AONB	Area of Outstanding Natural Beauty	Areas designated by the Countryside Commission subject to confirmation by the Secretary of State for the Environment, under National Parks and Access to the Countryside Act 1949 - the primary objective of the designation is conservation of the natural beauty of the landscape (PPG7).
DEFRA	Department of Environment, Farming, Food and Agriculture	
DT	Department for Transport	
EA	Environmental Assessment	An Environmental Assessment is a technique for drawing together, in a systematic way, expert quantitative analysis and qualitative assessment of a proposals environmental effects. The need for an EA is determined under the Town and Country Planning (Environmental Impact Assessment) Regulations 1999 and divides into two schedules.
EIP	Examination in Public	In accordance with the Development Plan Regulations 1999, an Examination in Public is convened to considered representations made on Structure Plans
FRCA	Farming and Rural Conservation Agency	An executive agency of the Ministry of Agriculture, Fisheries and Food and the National Assembly for Wales.
GPDO	General Permitted Development Order	General Permitted Development Order. Contain the provisions relating to permitted development rights (GPDO, 1995).
LNR	Local Nature Reserve	Habitats of local significance that contribute to both nature conservation and provide opportunities for public to see, learn and enjoy wildlife. LNRs are designated by local authorities under section 21 of the National Parks and Access to the Countryside Act 1949 (PPG9).
MAFF	Ministry of Agriculture, Fisheries and Food	
MCA	Mineral Consultation Area	An area notified to a District Planning Authority as an area in which development is likely to affect or be affected by the winning and working of minerals other than coal. The District Planning Authority must consult the County Planning Authority for its area before determining any applications for planning permission in such an area (based upon Schedule 1 of the TCPA 1990).
MLP	Minerals Local Plan	A Minerals Local Plan is a written statement formulating the authorities detailed policies for their area in respect of development consisting of the winning and working of minerals or involving the depositing of mineral waste (TCPA 1990).
MPA	Mineral Planning Authority	Any Local Authority with responsibility for planning control over mineral working. Outside Greater London, metropolitan areas and the Unitary

Appendix C2
ACRONYMS AND ABBREVIATIONS

		Authorities, MPAs comprise County Councils and National Park authorities (MPG1).
MPG	Minerals Planning Guidance Note	MPGs provide practical information and advice about planning policies, best practice and the legislation relating to minerals planning in a simple and accessible form. The DETR will have regard to this guidance in dealing with development plans, appeals and planning applications and it is expected that local planning authorities will also have regard to it in the exercise of their planning functions, including the preparation of Structure and Local Plans. The contents of individual MPGs range from general planning and procedure guidance to advice on specific issues and proposals (MPG1).
NNR	National Nature Reserves	Areas of national and some international nature conservation importance, managed primarily to safeguard such interest in accordance with English Nature's requirements., NNR are designated under section 19 of the National Parks and Access to the Countryside Act 1949 or section 35 of the Wildlife and Countryside Act 1981 (PPG9).
ODPM	Office of the Deputy Prime Minister	
PPG	Policy Planning Guidance Note	PPGs set out the Governments policies on different aspects of planning. They range from key objectives, operational principles to guidance and advice on more specific issues. It is expected that local planning authorities must take their content into account in preparing structure and local plans (PPG1).
RIGS	Regionally Important Geological and Geomorphological Sites	In Gloucestershire RIGS are the geological equivalent of key wildlife sites. Key wildlife sites are areas of local nature conservation, value designated by the Gloucestershire Wildlife Trust.
RPG	Regional Planning Guidance Note	Regional Planning Guidance Notes are prepared by the Secretary of State for the Environment, Transport and Regions (previously the Department of the Environment). RPG 10 "Regional Planning Guidance for the South West" provides advice for the up-dating and review of development plans in the South West
QPA	Quarry Productions Association	The QPA represents over 100 companies involved in mineral development, including recycling and secondary aggregates.
SAC	Special Area of Conservation	Candidate and proposed – Designated with the intention to protect habitats of threatened species of wildlife, under the European Community Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (The Habitats Directive).
SAM	Scheduled Ancient Monument	Sites and remains designated under the Ancient Monuments and Archaeological Areas Act 1979 to ensure protection from development (PPG16).
SEA	Strategic Environmental Assessment	SEA is a process for testing that environmental concerns are integrated into the policy appraisal of development plan preparation (PPG12)
SMR	Sites and Monuments Record	Local authorities and National Parks maintain a record (location/description/assessment) and archive of all known ancient monuments and archaeological sites in their areas.

Appendix C2
ACRONYMS AND ABBREVIATIONS

SPA	Special Protection Areas	Designated under the European Community Council's Directive on the Conservation of Wild Birds to protect threatened species (PPG9).
SSSI	Site of Special Scientific Interest	Designated by English Nature under the provision of the Wildlife and Countryside Act 1981 to protect flora, fauna, and geological or physiographical features. All sites of national or international nature conservation interest are notified as SSSIs (PPG 9).
SWRAWP	South West Regional Aggregate Working Party	One of ten Regional Aggregates Working Parties (RAWPs) in England and Wales that provide advice to the Secretary of State in relation to the supply of, and demand for, aggregate minerals. They were established in the early 1970s to identify and consider likely problems in the supply of aggregate minerals. Each RAWP is chaired by a County Planning Officer or the equivalent, and draws members from the MPAs, the aggregates industry (by representation from the trade federations, QPA and the Department of the Environment/Welsh Office, along with the Department's regional offices, other Government bodies, e.g. MAFF, and other appropriate interested parties (MPG6).

Appendix D
GEOLOGY OF GLOUCESTERSHIRE

Forest of Dean

The Forest of Dean is an elevated mass of much disturbed old sandstones and limestones sandwiched between the Rivers Wye and Severn. The main geological structure of this area is a saucer-shaped downfold, where Carboniferous rocks of the Forest of Dean Coalfield [the Coal Measures] and underlying Carboniferous Limestone Series are embedded in a terrain otherwise dominated by great thicknesses [up to 2,500 metres] of massive red and brown sandstones, with interbedded shales and mudstones [known as Old Red Sandstone of the Devonian period].

The Carboniferous rocks of this area have particular economic significance for Gloucestershire. The Carboniferous Limestone Series [some 400-450 metres thick] is characterised by the development of hard massive grey-pink dolomitic ['mountain'] limestone [e.g. the Lower Dolomite] though substantial thicknesses of grey shales [Lower Limestone Shales] mark the base of the Series and sandstones the top of it. Typically it creates a ridge-and-vale topography within the encircling Old Red Sandstone, providing a prominent and scenic rim to the clays, shales, massive sandstones and numerous exposed coal seams of the Coal Measures that form the wooded and dissected triangular plateau area of the Forest of Dean Coalfield. The Lower Dolomite patchily also extends south in a broad belt along the flanks of the Wye Valley towards Chepstow, where as flat-lying beds, they form distinct plateau-like upland areas. In addition a limestone horizon up to 18 metres in thickness occurs within the Lower Limestone Shales which also forms substantial plateau-like outcrops in the southern part of the Forest of Dean.

The Forest of Dean Coalfield some 90 km² in area is completely exposed and comprises over 11 workable seams of coal separated by beds of shale and sandstone. The latter rock predominates in the lower part of the Coal Measures [the Trenchard and Pennant Formations], whilst the former is largely found in the higher part [centre] of the Coalfield [the Supra-Pennant formation].

The Old Red Sandstone beds which surround the Forest of Dean also extend across the extreme north-west of the County in the Oxenhall - Kempley - Dymock area. However, east and northeast of the Forest of Dean in the triangle formed between Bromsberrow and Newnham and the River Severn these older rocks give way to similar coloured but younger, and generally softer sediments. They are beds of the Triassic period [the New Red Sandstone] comprising up to 550 metres of red-brown mudstones, sandstones and conglomerates. These beds together give rise to heavy red-brown clay soils and the rolling countryside characteristic of north-west Gloucestershire.

Severn Vale

On the extreme eastern edge of the Forest of Dean, from Blakeney northwards the Triassic beds described above together with overlying Lower Lias beds of the Jurassic period are

exposed alongside the River Severn, and form the western flank of the Severn Vale. The eastern flank of the Severn Vale, between the Severn [and the Avon in the Tewkesbury area] and the Cotswold escarpment comprises the same Lower Lias beds which are mainly a grey mudstone believed to be over 300 metres thick but containing impersistent but relatively hard limestone and sandstone beds. Characteristically, the mudstones give rise to heavy clay soils prone to wetness and flooding. In places outliers of overlying harder Middle Jurassic limestone, have created isolated but prominent hill features [e.g. Oxenton, Dumbleton, and Churchdown Hills].

The Severn Vale and adjoining areas drained by the River Severn [and Avon] and its tributaries [including the Isbourne, Leadon, Swilgate, Chelt, Hatherley Brook, Frome and Cam] are defined and characterised by widespread superficial deposits lying on the rocks described above. They comprise an extremely varied series of unconsolidated clays, silts, sand and gravel beds of both glacial and fluvial origin, including widespread floodplain alluvium, substantial, but patchy, expanses of river terrace, fan gravel deposits and minor areas of head. Together they represent the development of these water courses during the various glacial and interglacial phases of the last Ice Age.

The river terrace deposits represent the ancient floodplain deposits of rivers and comprise generally varying proportions of clay, silt, sand and gravel; typically, however, they are stratified sands and gravels up to 7 metres thick.

The Severn Vale fan gravels comprise mainly of Jurassic limestone gravel and fine quartz sand. Over much of the Severn Vale and Northwest Gloucestershire they probably originally formed a fairly continuous sheet but are today dissected and diminished by the County's watercourses. Of particular note however is the Cheltenham Sand composed of medium grained quartz sand with limestone fragments and gravel lenses. It underlies much of the Cheltenham - Gloucester area and in places reaches 6 metres in thickness.

Cotswold Hills (AONB)

The Severn Vale is bounded to the east by a steep indented wall-like escarpment that marks the edge of the Cotswold Hills. Above the clays of the Severn Vale the lower part of this escarpment consists of 150 metres of further clays and silts and sands of the Middle and Upper Lias. These beds are generally relatively soft, protected from erosion by the overlying Middle Jurassic limestones. The latter are divided into the Inferior and Great Oolite Groups; within each group are numerous different limestone formations, which tend to vary laterally in thickness, nature and occurrence through the Cotswolds. Each variation may have a local name. Characteristically the Inferior Oolite Group comprises a varied sequence of mainly oolitic limestones ranging from less than 20m thick in the east and south of the County to over 100 metres in the Cheltenham-Cleeve Hill area. A number of distinctive rock types can be distinguished; for example, the Pea Grit which takes its name from the presence of rounded algae growths [pisoliths] set in a matrix of shell debris and fine-grained carbonate cement. In addition, there are prominent freestones including the Cheltenham Building Stone [up to 50 metres thick at Leckhampton Hill], Campden Stone [found around Chipping Campden], Yellow and White Guiting Stone [found in the Temple Guiting-Stanway-Bourton-on-the-Hill area] and the Notgrove Freestone [widely distributed in the north and central Cotswolds]. Within the Inferior Oolite Group there are also lesser clay, sand and marl beds.

Much of the upland area of the Cotswolds, however, comprises the Great Oolite Group. It shows an even greater variety of formations than the Inferior Oolite and up to 90 metres thick

with individual formations which thicken, thin and die out laterally. Three main rock types may, however, be recognised: clays, clayey limestones and shelly oolitic limestones. At the base is the so-called Fullers' Earth a predominantly mudstone formation, overlain by the Stonesfield Slate Beds which is up to 8 metres of flaggy sandy oolitic limestone, best developed in the mid and north Cotswolds. The succeeding limestones are mainly oolitic, ranging from fine to coarse grained, variously shelly, sandy and marly although there may also be bands of mudstones. The various beds will have local names, particularly where used for building purposes; for example, the Minchinhampton and Taynton Freestones. At the top of the Great Oolite Group is a persistent bed of shelly rubbly limestone with mudstones between 2 and 6 metres thick, known as the Cornbrash. In the south-eastern corner of the County, in the area of the Upper Thames Valley, the Great Oolite Group is succeeded by a succession of predominantly grey mudstones, including that known as the Oxford clay.

The interbedded nature of the limestones and clays of the Inferior and Great Oolite Group influences the topography, drainage, soils and settlements of the Cotswolds. The topography of this upland area is dominated by its steep escarpment, which rises within a mile from the lower Lias clay to the scarp crest. East and south-westwards the dipslope falls away for 8 to 20 miles across undulating topography reflecting the regional dip of the Inferior and Great Oolite beds to the east and southeast. Progressively younger strata are exposed in this direction, until the Oxford clay is reached beneath the Upper Thames Valley. In the north of the County the main upland forming rocks are of the Inferior Oolite while in the south this becomes thinner and the Great Oolite forms the highest relief.

Away from the escarpment the drainage is almost entirely south-eastwards via tributaries of the Thames; namely the river Churn, Coln, Leach, Windrush and Evenlode rivers where they join the Thames, waterborne superficial deposits are thick and extensive [see the Upper Thames Valley]. The valleys of the Churn, Coln, and Leach and their tributaries tend to be narrow and meandering because they are incised into the limestones of the Inferior Oolite and Great Oolite. They contain only narrow tracts of superficial deposits. In contrast, the Windrush [and its main tributary the Dikler] and the Evenlode lie in broader shallow valleys cut into soft Lias mudstones, and may be flanked by more substantial expanses of terrace deposits and alluvium. In addition, in the case of the Evenlode, which drains the Vale of Moreton, there are broad tracts of till and associated sand and gravel deposits left behind by an ice sheet during the last Ice Age.

Upper Thames Valley

The Upper Thames Valley lies at the base of the Cotswold dip slope and is consequently underlain by the younger Jurassic rocks. They comprise a series of limestones and mudstones which lie at the top of the Great Oolite Group [see the Cotswolds] and in the succeeding Upper Jurassic. The former, including the Cornbrash form the northern flank of the Thames Valley, whilst the floor is underlain by the overlying Upper Jurassic Kellaway Beds and Oxford Clay. These dark mudstones with sandstone beds and blue-grey clay together they form a water tight layer of significant depth [over 100 metres] beneath the bulk of the Upper Thames Valley in Gloucestershire.

The Upper Thames Valley is substantially covered by terrace deposits laid down during the later glacial advances of the last Ice Age they are composed chiefly of fragments of local oolitic limestone. As a result of down cutting and the southerly migration of the Thames between phases of terrace deposition, the older terraces have been left as remnants at various levels in the valley

side. The more recent terrace deposits were laid down generally further to the south at successively lower levels. Four terraces are recognised in the Upper Thames; all are of roughly similar composition and grading and comprise mainly sandy oolitic limestone gravels containing varying proportions of other rocks, including quartz, flint and ironstone silt layers [up to 1 metre thick] may also occur in the gravels. These terrace deposits may be up to 6 metres in thickness, but more generally range from 1 to 4 metres.

Appendix E
AGGREGATE PRODUCTION AND LANDBANK REQUIREMENTS FOR REMAINDER OF THE PLAN PERIOD

This appendix identifies up to date production and reserve information for the county and the implications this may have for resources identified in this Plan.

Production over the recent years from 1992 is indicated and includes crushed rock sold from natural building stone quarries. Actual production can be compared with the annual expression of the local apportionment in Table 1 of the Plan [page 29]. Actual production has never been up to, or over the annual provision for crushed rock or sand and gravel since 1992.

Table E1: Aggregate sales from sites in Gloucestershire 1992 – 1998 [million tonnes]

Resource/Area	Annual Sales							Average Sales	
	1992	1993	1994	1995	1996	1997	1998	3 years 1996-1998	5 years 1994-1998
Crushed Rock-Limestone Forest of Dean	1.95	1.79	1.77	1.78	1.58	1.80	1.48	1.62	1.68
Crushed Rock - Limestone Cotswolds	0.63	0.60	0.67	0.52	0.47	0.55	0.45	0.49	0.53
Total Crushed Rock-Limestone	2.58	2.39	2.44	2.30	2.05	2.35	1.92	2.11	2.21
Sand and Gravel Mainly the Upper Thames Valley	0.77	0.72	0.89	0.84	0.72	0.77	0.66	0.72	0.78

As referred to in paragraph 3.3.7, Table E2 below identifies the requirement for the remainder of the Plan period 1999-2006 taking account of the most up to date reserve collation as of 31.12.98

The overall aggregate requirements are obviously less, as Table E2 covers the period from 1.1.99 as opposed to the Plan base date of 1.1.97. It must be stressed that the purpose of Table E2 is to provide information and/or monitoring and is not intended as a replacement to Table 2 of the Plan itself. From this trends or implications for the remainder of the Plan can be identified. A summary of these implications follows.

Table E2: Landbank Requirement of the Minerals Local Plan for Gloucestershire for period 1999-2006

A	B	C	D	E	F
Resource/ Area	**Local Apportionment 1999-2006**	**7 year Landbank - Crushed rock and Sand & Gravel at 2006**	**Local Apportionment & Landbank Requirement 1999-2006 [Column B+C]**	**Existing Reserves of Aggregates at 31.12.98**	**Additional Reserves Required 1999 – 2006 [Column D-E]**
Crushed Rock Forest of Dean	**17.8**	**15.5**	**33.3**	**20.7**	**12.6**
Crushed Rock Cotswolds	**7.6**	**6.7**	**14.3**	**12.8**	**1.5**
Crushed Rock Total	**25.4**	**22.2**	**47.6**	**33.5**	**14.1**
Sand & Gravel Upper Thames Valley	**10.3**	**9.0**	**19.3**	**11.4**	**7.9**

FUTURE PROVISION IN THE FOREST OF DEAN

The additional reserves required to maintain existing and potentially future increased production capacity at the end of the Plan period from the three quarries identified in the Plan and to maintain a 7 year landbank would amount to 6.4 million tonnes. The potential shortfall for the remainder of the Plan period and post-plan period would be 6.2 mt. The position regarding future provision in the Forest of Dean as outlined in paragraph 3.5.8 is not fundamentally altered.

FUTURE PROVISION FOR COTSWOLD LIMESTONE RESERVES

With regards to Cotswolds Limestone reserves there is now only a very small theoretical production shortfall which if required can easily be met from Daglingworth and Huntsman's Quarries. The position with regards to future provision in the Cotswolds as outlined in paragraph 3.5.15 is now more strongly reinforced.

FUTURE PROVISION FOR SAND AND GRAVEL RESERVES

There are no implications for sand and gravel resources other than overall aggregate requirements are obviously less. Bearing in mind production trends for sand and gravel there is no reason that the position outlined in paragraph 3.6.11 should be altered.

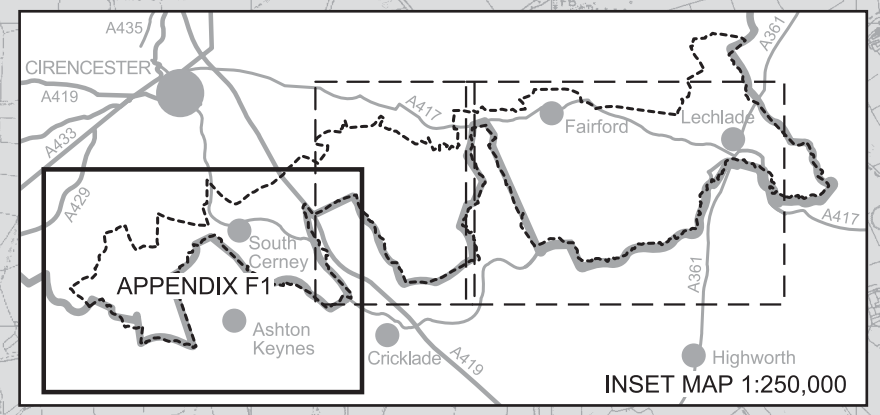
APPENDIX F1
COTSWOLD WATER PARK
SETTLEMENT PROTECTION BOUNDARIES

Scale: 1:25,000

N

Settlement Protection Boundary in the Upper Thames Valley Sand and Gravel Resource Area (as designated in the Upper Thames Policy Review, 1993)

Gloucestershire County Boundary



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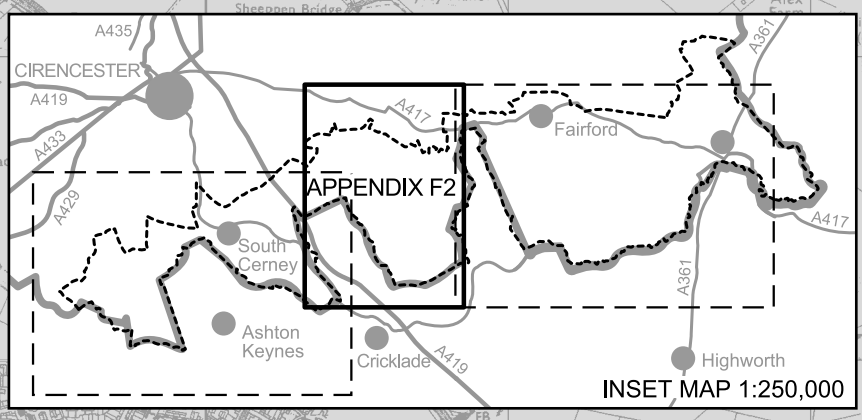
APPENDIX F2
COTSWOLD WATER PARK
SETTLEMENT PROTECTION BOUNDARIES



N

Scale: 1:25,000

Settlement Protection Boundary in the Upper Thames Valley Sand and Gravel Resource Area (as designated in the Upper Thames Policy Review, 1993)

Gloucestershire County Boundary

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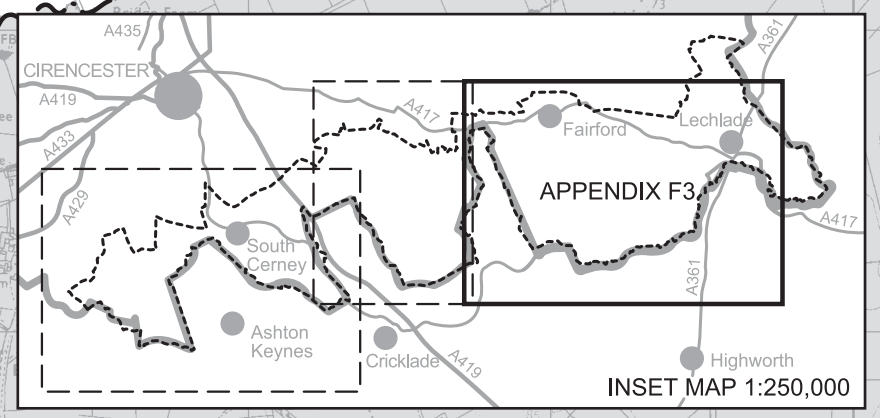
APPENDIX F3
COTSWOLD WATER PARK
SETTLEMENT PROTECTION BOUNDARIES

Scale: 1:25,000

N

Settlement Protection Boundary in the Upper Thames Valley Sand and Gravel Resource Area (as designated in the Upper Thames Policy Review, 1993)

Gloucestershire County Boundary



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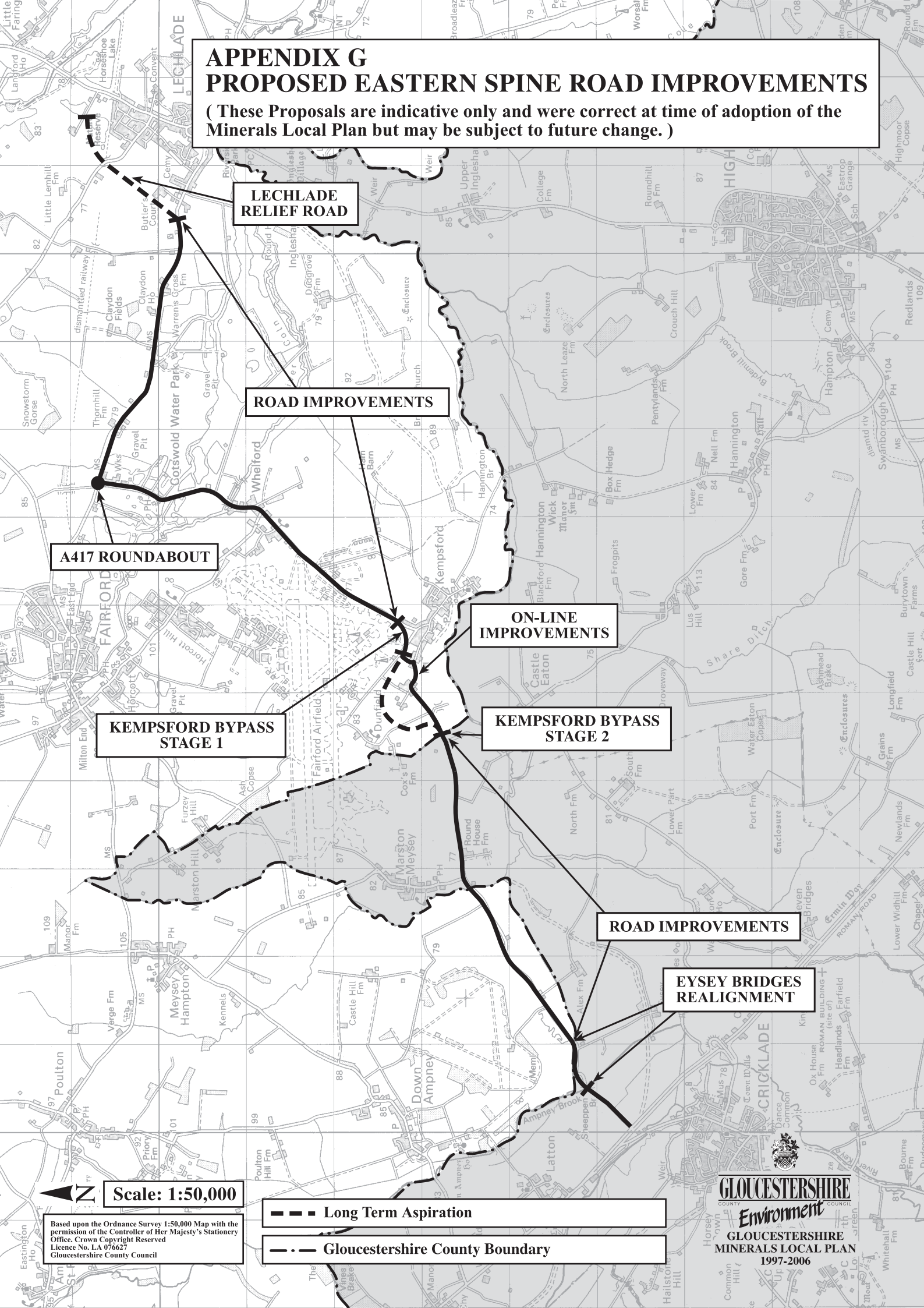
APPENDIX G
PROPOSED EASTERN SPINE ROAD IMPROVEMENTS

(These Proposals are indicative only and were correct at time of adoption of the Minerals Local Plan but may be subject to future change.)



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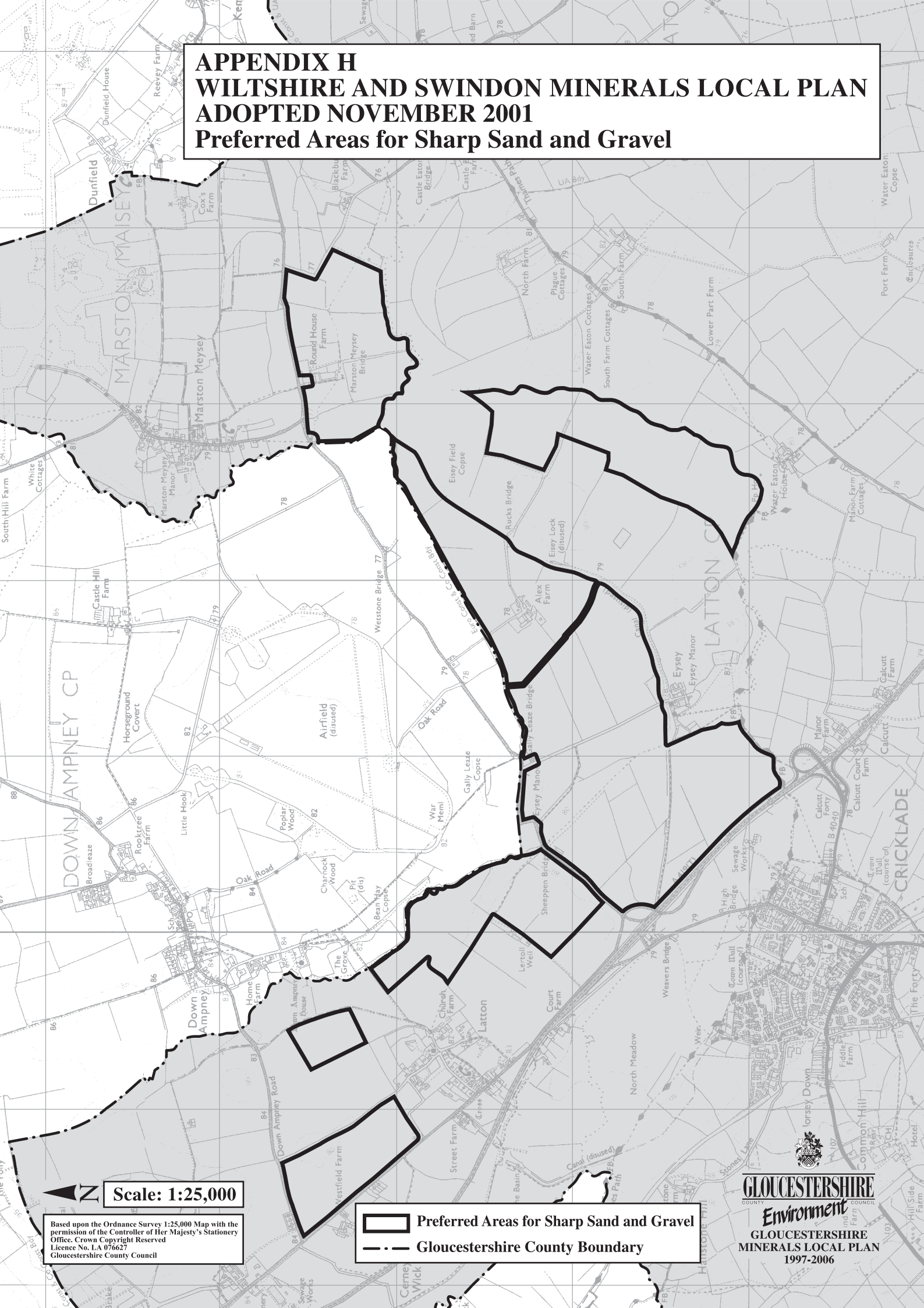
APPENDIX H
WILTSHIRE AND SWINDON MINERALS LOCAL PLAN
ADOPTED NOVEMBER 2001
Preferred Areas for Sharp Sand and Gravel



APPENDIX I
MINERAL CONSULTATION AREAS

N

Scale: 1:63,360

Mineral Consultation Area

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GLOUCESTERSHIRE MINERALS LOCAL PLAN 1997-2006

Appendix J
SUPPORTING INFORMATION FOR PROPOSED MINERAL DEVELOPMENT APPLICATIONS

1 Pre-application Discussions

The MPA encourages applicants to discuss proposals for mineral development prior to the submission of an application. Pre application discussions between the MPA, relevant consultees and the mineral operator will guide the content of the subsequent application and provide an opportunity to highlight pre application requirements, for example:

- The need for an Environmental Impact Assessment of the proposal under the Town and Country Planning (Environmental Impact Assessment) Regulations 1999 (see paragraph 4 below),
- Hydrological monitoring as required by the Environment Agency,
- Baseline monitoring of the environment prior to mineral development to allow the accurate assessment of any adverse environmental impact arising from the proposed development. Such information will be essential to the preparation of environmental assessments, landscape appraisal and visual impact assessment, noise assessment etc.,
- Landscape enhancement, ecological survey and/or archaeological assessment where appropriate.

2 Pre-application Consultation

Where a proposed development is likely to have a significant environmental and/or economic impact the applicant may wish to publicise the proposal prior to the submission of an application. The MPA will encourage applicants to discuss proposals with local community representatives, for instance the parish councils or neighbourhood associations. Additional publicity and consultation will not prejudice any future decisions and is not designed to replace the statutory process of dealing with a planning application. However, it may provide an opportunity for the exchange of views and information at an early stage which will assist the in the determination of the application. In addition, where underground or overhead services are potentially affected, mineral operators should discuss the possible impact on such utilities with the appropriate service provider at an early stage. Pre-application negotiations to identify potential measures, such as relocation of overhead power-lines can avoid delays in consideration of planning applications or in the eventual implementation of a development proposal.

3 Application forms and relevant plans

The application must be completed on relevant application forms supplied by the MPA. The applicant should provide at least 10 copies of the application to assist the MPA with circulation to relevant consultees. The application must include the following plans:

- appropriate Ordnance Survey base location plan, for example, scale 1:50 000 or 1: 25 000

- appropriate large scale Ordnance Survey base proposed site plan, for example 1: 10 000 or 1:2 500. The land to which the application relates must be outlined in red, adjacent land under the control of the applicant must be marked in blue.
- appropriate Ordnance Survey base site details plans, for example 1: 200 showing elevations of any ancillary buildings and 1:500 indicating location of plant.

4 Environment Assessment

The MPA will require the applicant to submit an environmental statement (ES) for the proposed mineral development wherever appropriate. Proposed mineral development over 25 hectares are Schedule 1 developments under the Town and Country Planning (Environmental Impact Assessment) Regulations 1999, and will therefore require a mandatory EIA. The majority of other proposed mineral development is likely to be considered as a Schedule 2 development, requiring the MPA to screen the proposal to establish whether an ES needs to be submitted. Circular 02/99 provides guidance on the implementation of the Regulations. The need for an EIA for Schedule 2 developments will depend on whether the proposal is likely to have significant effects on the environment, by virtue of factors such as its size, nature or location.

5 Periodic Review of Mineral Permissions

The periodic review of mineral permissions will be guided by appropriate policies of this Plan. Schedule 14 and 13 of the Environment Act 1995 introduced a duty for Mineral Planning Authority to review all mineral planning permission. All mineral permissions are now subject to a 15 year periodic review in order to ensure that permissions are kept up-to-date as far as possible.

6 Information in support of an application

Mineral operators will be required where appropriate to include necessary supporting information in applications for mineral development that addresses fully environmental and other impacts and provides measures to mitigate any adverse effects likely to arise. The following matters are considered appropriate supporting information (Please note that this is not intended to be a comprehensive list, but provides guidance to the applicant on matters which may need to be considered):

1
Resource Information

Where appropriate the application should include information on the following matters:

- details about the geology underlying the site and surrounding area, and
- quantitative and qualitative details of the mineral resource to be worked, including a record of all exploration/appraisal work carried out, and
- information about the extent, depth and volume of proposed working including intended rate of extraction and amount of waste arising, and,
- where necessary, information on the end-use and markets for the mineral products.

2
Water Environment

(i) The Environment Agency usually requires a period of monitoring of hydrological conditions prior to mineral development (likely to be at least 2 years). Where

appropriate, the applicant should indicate that provision has been made for continual monitoring of the ground and surface water. This is particularly important in areas where knowledge of the impact of mineral development on the water environment is poorly understood and/or the hydrology is particularly vulnerable. The applicant should seek advice from the MPA and the Environment Agency on this matter.

(ii) Where appropriate the applicant should include proposed measures to prevent pollution of ground and surface water throughout the life of the development.

3
Landscape and Visual Impact

(i) Where appropriate the applicant should indicate that the local character and quality of the landscape has been fully considered. Proposed development within any Area of Outstanding Natural Beauty or special landscape area will be given appropriate consideration by the MPA in accordance with policies in this plan.

(ii) Mineral development can have a significant visual impact which may adversely affect local communities. Particular regard will be paid to the visual impact of mineral development within AONBs and where it is in close proximity to settlements and individual properties.

(iii) Where appropriate, the following matters should be addressed in the application:

- A baseline study of the character, quality, enhancement potential and sensitivity of the landscape including the identification of landscape elements, local character and county context,
- identification of key landscape features within and adjacent to the proposed area of working which should be retained,
- an assessment of visual impact of the proposed development and measures to mitigate and minimise such impacts,
- scope for landscape enhancement of the area.

4
Ecological Interest

(i) Wherever appropriate the applicant should identify the key ecological interest within the site or its influence and the impact the proposed mineral development may have on such habitats and species. This may be provided as part of an environmental assessment and may need to be carried out over at least three seasons to ensure that important habitats, flora and fauna are not overlooked. The ecological appraisal should seek to identify any potential impact on:

- sites designated as internationally, nationally, regionally and/or locally significant to nature conservation,
- important habitats not previously identified,

(ii) The appraisal should also seek to identify:

- scope to create habitats as compensatory measures,
- scope to recreate and enhance habitats as part of restoration proposal,
- measures to protect important habitats within and adjacent to site including the retention of hedgerows where appropriate.

5
Archaeological Remains

In areas where the proposed development may threaten locally and nationally important archaeological remains the applicant should carry out a survey of archaeological remains of the site. The MPA supports the CBI's Code of Practice for Mineral Operators guidance on archaeological investigation which ensures that operators take full account of archaeological factors. The survey may, where appropriate, entail a combination of desk-top assessment and a field evaluation, and should indicate (as guided by the County Archaeologist and where appropriate, English Heritage) the following:

- remains which will be preserved *in situ,*
- the recording of remains before mineral working commences,
- a watching brief throughout the life of the site to ensure that archaeological evidence is recorded before it is lost.

6
Agricultural Land

(i) If proposed development involves the use of agricultural land, information regarding the agricultural land classification, including soils data, needs to be supplied.

(ii) Where best and most versatile land is identified (i.e. grades 1 - 3a) consideration should be given to the scope to restore the land to grade once the mineral is worked out.
More information – see PPG7 and MPG7.

7
Environment Effects:
Noise, Blasting, Air Pollution

(i) All environmental effects and possibility of pollution arising from proposed development should be considered where applicable in the application.

(ii) **Noise:** Mineral development can give rise to considerable noise which will need to be assessed and mitigated. The applicant should assess the impact of noise arising from the proposed mineral development on neighbouring land-uses as well as identifying noise sensitive properties adjacent or close to the site. Where there is potential for adverse impacts the application must include information on proposed noise abatement controls, for example, phasing of site, construction of baffle mounds or acoustic fencing wherever appropriate, consideration of appropriate plant and method of working the mineral. PPG24 "Planning and Noise" and MPG11 "The Control of Noise at Surface Mineral Workings" provides advice on this matter.

(iii) **Blasting**: Where appropriate the applicant should consider the impact of blasting on surrounding land-uses. The applicant must indicate that adequate arrangements will be made for public warnings as well as measures which will be employed to minimise ground vibration and air overpressure. The Health and Safety Executive must be consulted on this matter. MPG2 "Applications, Permissions and Conditions" (paragraphs C35-C37) and MPG3 "Coal Mining and Colliery Spoil Disposal" provide guidance on the control of blasting.

(iv) **Air Pollution:** Dust emissions arising from mineral development can have a negative impact on the amenity of local communities unless appropriate measures are adopted to control it. Applications for proposed mineral development where appropriate should include information on how the mineral operator will seek to reduce dust in all areas of activity including:

- at the point of extraction,
- on haulage routes, access and conveyors,
- on the site generally e.g. top soil stripping, unsurfaced roads, stock piles etc.
- processing/ ancillary plant.

(v) **General:**
If the proposal is for an extension to existing mineral development the applicant should indicate the cumulative impact of the proposed development for all matters indicated above and measures to mitigate.

8
Proposed Site Operation and Phasing
Where applicable, the application should provide the following information on the proposed working of the site:

- methods, direction and depth of working,
- life of the operation,
- full details of the siting and design of plant (fixed and mobile), buildings, other structures and any ancillary development,
- where appropriate details regarding the location of weigh bridge, vehicle cleaning etc.,
- full quarry development plans,
- details of stripping, storage and respreading of soil, subsoil and/or overburden and timing of soil movement,
- location, extent and height of any stockpiles of materials,
- details of site access design and proposed improvements,
- details of landscaping,
- proposed working hours and day,
- production levels.

9
Lighting Scheme

Where appropriate the applicant should include a scheme of lighting design for the proposed mineral development including the siting of security and working lighting. The applicant should consider ways to minimise the impact of such lighting schemes and measures which may be incorporated to reduce the impact of bright, glaring and dazzling lights.

10
Quarry waste materials arising and importation of materials.

In the interest of sustainable development and in accordance with the policies in the MLP the applicant should indicate how quarry waste materials arising from the proposal may be utilised within or outside of the proposed development. Where appropriate the following issues should be addressed in the application:

- details about any waste products arising from the proposed development,
- information regarding the utilisation of this material on the site,

- details regarding the utilisation of waste and secondary material outside the development,
- details regarding the proposed importation of any materials to facilitate works on site, for example landscaping, construction of baffle mounds, construction and maintenance of site roads etc.

11
Land Stability

(i) Wherever appropriate the application should include an assessment of land stability. The applicant should establish the likelihood of subsidence arising from the proposed mineral development and measures to overcome any potential problems.

(ii) PPG14 "Development on Unstable Land provides guidance on this matter.
The MPA will where appropriate require the mineral operator to establish that proposed sites are stable. Where land instability is likely to arise, provision must be made to avoid problems with subsidence.

12
Hazardous Substances

Where it is likely that hazardous substances will be used on site the applicant must indicate appropriate measures for the siting of development which involves the use and/or storage of such materials. The applicant may find it helpful to consult the Health and Safety Executive who will provide advice on this matter.

13
Ancillary development

The application should include details about any development ancillary to proposed mineral working, including any appropriate plans (for example ready mixed plants, brick making plants etc.). The applicant should indicate the necessity for such development ensuring that it relates directly to the proposal for mineral extraction. All relevant details of plant design, size and location must be included in the application and any other appropriate information which may assist in the determination of the proposal.

14
Transport & Highways Matters

Where appropriate comprehensive details regarding highway and transport matters relating to the proposed mineral development should be provided. In accordance with the principles of sustainable development the MPA will encourage the use of the least environmentally intrusive mode of transport. An appropriate Transport Assessment must be submitted as part of the application and should consider the following matters:

- the mode of transport of minerals from site to markets, considering wherever practical alternative modes to road,
- details on how material is transported within the site,
- scope for reinstatement of rail head or preservation/restoration of canal lines.

Where transportation is by Road:

- number of vehicles per day entering and leaving the site,
- details of vehicles, eg. size of lorries, weight and axle size,
- road restrictions to lorry traffic, eg. signing of preferred lorry route,
- impact of traffic on local highway network and the wider environment including noise, vibration, visual effects, severance, amenity, fear and intimidation, safety issues, air pollution, dust and dirt, ecological effects and impact on the built environment,
- where the proposal is for an extension and/or ancillary to existing mineral development the cumulative impact of the development on the highways must be considered,
- scope and measures to mitigate impact of traffic.

15
Public Utilities

Mineral development may affect underground gas, water, draining pipelines, electricity cables and overhead power lines and pylons. Where appropriate information about services underlying, overhead or adjacent to the site should be included in the application. The applicant is advised to consult the relevant Public Utilities companies on this matter.

16
Public Rights of Way

Where appropriate applicants should provide information on the following matters in respect of public rights of way:

- the possible impact of proposed development on public rights of way,
- how the operator intends to make provision for safeguarding or diversion of any affected public right of way, and
- scope for long-term reinstatement of the affected public rights of way.

17
Listed Buildings and Conservation Area

(i) Where appropriate the applicant should identify possible impacts on either listed buildings or conservation areas. Section 54 of the 1990 Act makes it an offence to demolish or alter a listed building without the consent of the local authority or appropriate Secretary of State.

(ii) Local authorities may designate conservation areas based on architectural and/or historic merit which should be preserved or enhanced, and therefore safeguarded from mineral development.

(iii) The proposed development may provide an opportunity to restore and utilise derelict listed buildings. The MPA would support such initiatives subject to the consent from the relevant planning authority or Secretary of State to carry out any necessary works.

18
Airfields/ Ministry of Defence Land

The applicant should consider whether the proposed mineral development impacts on adjacent military or civilian airfields or land controlled by the Ministry of Defence. Such adjacent land-use may pose hazards to the mineral development i.e. storage of inflammable substances and/or explosives materials.

19
Economic Development

Where appropriate the application should include a statement about how the proposal may impact on the economic development of local areas, and should include the following information where appropriate:

- number of direct jobs created as a result of this proposal,
- number of indirect jobs created as a result of development, and
- Scope for skill development and education.

20
Re-use of rural buildings

Where appropriate applicants should identify scope to utilise redundant rural buildings. The MPA will support initiatives to re-use buildings in rural areas in the interest of supporting the rural economy and enhancing the environment.

21
Reclamation

(i) MPG7 "Reclamation of Mineral Workings" states that restoration proposals and afteruse should be considered at the earliest stage possible of mineral proposals.

(ii) The following matters should where appropriate be included in an application for mineral development:

- an appropriate afteruse should be identified eg. amenity, nature conservation, forestry or agriculture
- account should be taken in the working and reclamation of the site to ensure an appropriate afteruse may be secured,
- scope for progressive restoration wherever possible,
- provision for the aftercare of the site for a period of five years following restoration.

(iii) Potential applicants should also refer to The Environment Agency's "Policy and Practice for the Protection of Groundwater" where appropriate.

Appendix K
BRIEF HISTORY OF MINING LEGISLATION OF THE FOREST OF DEAN IN THE HUNDRED OF ST BRIAVELS

The mines and minerals under the Forest of Dean at some time (now remote and uncertain) became subject to the peculiar rights of Freeminers. The Dean Forest Reafforestation Act 1668 contains the first Statutory Notice of the rights of Freeminers. From this time the mining operations in the Forest appear to have increased in activity, with matters being confused with many disputes and much discontent. There were many attempts to remedy the situation but no legislation followed until the Dean Forest (Gale Rent) Act 1819 was passed to better secure the payment of galeage (licence area) rents.

Subsequent to this, nothing materially or directly affecting the Freeminers appeared in the Statute Book until 1831 when the Dean Forest Commissioners produced the series of reports which resulted in the important legislation of the Dean Forest (Mines) Act 1838, when the Freeminers' rights were declared and established, and a Commission was appointed to ascertain the boundaries of the several existing gales (licence area) of works of coal, iron and quarries. The results of the Commission were the Awards of 1841 coal mines and iron mines — two of which related to the boundaries of collieries and iron mines — together with the Rules and Regulations for the working of such mines etc.

This was followed by the Dean Forest Act 1861, Section 1, which states that 'the grant of a gale of coal or iron shall confer on the galee, his heirs or assigns, a licence to work the mine, vein or pit in the nature of real estate. Such licence is conditional on payment of all rents, royalties and observance of the several Enactments, Provisions, Rules and Regulations for the time being in force for the proper opening, working, and use and management of the gale.'

The Dean Forest (Mines) Act 1871 made further provision respecting the opening and working of mines and quarries in the Hundred of St Briavels. The amendment effected by the Dean Forest Act (Amendment) 1861 and the Dean Forest (Mines) 1871 Act, together with the 1841 Awards and the principal Act of 1838, comprise the Mining Charter of the Forest.

The Dean Forest (Mines) Act 1904 facilitated the opening and working of the deep coal of some of the lower series of coal seams by allowing the Gaveller to amalgamate, sub-divide and rearrange 41 gales to form the five major central mining areas which subsequently became significant collieries.

These consolidated deep mines continued in operation until 1938 when in effect, following fifty years of Parliamentary debate and two Royal Commissions (1919 and 1925), the 1938 Coal Act nationalised the coal in the ground but not the operators and in the Forest of Dean it remained subject to the rights of Freeminers, their heirs and assigns.

The Coal Industries Nationalisation Act 1946 nationalised the mining companies and thus made the whole coal mining industry in Great Britain complete by the creation of the National Coal Board (later British Coal) with monopolistic powers, but provided that the working of coal by individuals by virtue of a grant of a gale licence in the Forest of Dean or in other parts of the Hundred of St Briavels must not be deemed to constitute a colliery concern for the purposes of the 1946 Act

The rights of Freeminers, their heirs and assigns were thus preserved by the 1946 Act.

To meet the ambiguous loophole of Section 36 of the 1946 Act, the Minister of Fuel and Power issued a short token bare extra licence to galees who requested them. There was no charge for this licence which did not add to or detract from the 1838 Act gale licences.

The Coal Industry Act 1994 privatised the UK coal mining industry and set up the Coal Authority whose role is as a facilitator rather than a coal producer and which is statutorily obliged to licence all coal mining operations in Great Britain.

The relationship between the Freeminer and the Coal Authority is not clear, but it is certain that the Dean Forest Mine Enactments and the 1994 Act do not sit comfortably together and neither one can be said to take clear precedence over the other.

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