DERBY AND DERBYSHIRE

MINERALS LOCAL PLAN

SUPPLEMENTARY PLANNING GUIDANCE

ON

THE AFTER-USE OF SAND AND GRAVEL SITES

IN THE TRENT, LOWER DERWENT AND LOWER DOVE VALLEYS

ADOPTED EDITION

DECEMBER 2004

Councillor John Williams
Leader of Derbyshire County Council
Derbyshire County Council
County Hall
Matlock
Derbyshire
DE4 3AG

Councillor Maurice Burgess
Leader of Derby City Council
Derby City Council
The Council House
Corporation Street
Derby
DE1 2FS

Foreword

Background
Derbyshire County Council and Derby City Council have jointly prepared this supplementary planning guidance (SPG). It supplements policies of the adopted Derby and Derbyshire Minerals Local Plan by providing planning guidance on the after use of sand and gravel sites in the Trent, Lower Derwent and Lower Dove Valleys.

The SPG sets out a framework of principles aimed at securing a preferred pattern of after uses for worked out sand and gravel sites. For specific sites that have been allocated for working in the Minerals Local Plan and sites that have permission for working but no approved detailed reclamation scheme, the SPG sets out preferred after uses in accordance with these principles.

Publicity and Consultation
In preparing the SPG the Councils are required to consult the general public, businesses, and other interested parties and take their views into account before finalising the document. The way in which the Councils have carried out this requirement is set out in the Statement of Publicity and Consultation published separately from this document available free of charge from the County Council by contacting Tracey Frost on the number given below.

This Edition
This is the final adopted edition of the SPG. It was adopted by Derbyshire County Council on 14/12/04 and by Derby City Council on 30/11/04.

Further Information
If you have any queries or require further information about the SPG please contact any of the officers below:

Brian Smart at Derbyshire County Council: telephone 01629 580000 ext. 3320 or email brian.smart@derbyshire.gov.uk

Carol Barnett at Derbyshire County Council: telephone 01629 580000 ext. 3322 or email carol.barnett@derbyshire.gov.uk

David Slinger at Derby City Council: telephone 01332 256001 or email david.slinger@derby.gov.uk

Additional copies
Additional copies of the SPG can be obtained, at a price of £10 (including postage and packaging) from Tracey Frost at Derbyshire County Council. Telephone 01629 580000 ext. 7590 or email tracey.frost@derbyshire.gov.uk

Please contact us if you have any difficulty in reading this document. It can be made available in alternative formats, including large print, audio and

Braille, by contacting Annie Simpson at Derbyshire County Council. Telephone 01629 580000 ext. 3301 or email annie.simpson@derbyshire.gov.uk

Hindi यदि आपको इस दस्तावेज़ को पढ़ने या इसके किसी भाग का अनुवाद करने के लिए सहायता चाहिए तो हम से सम्पर्क करें । **01332 255910**

Punjabi ਜੇ ਤੁਹਾਨੂੰ ਇਸ ਦਸਤਾਵੇਜ਼ ਪੜ੍ਹਨ ਲਈ ਜਾਂ ਇਸਦੇ ਕਿਸੇ ਭਾਗ ਦੇ ਅਨੁਵਾਦ ਕਰਾਨ ਲਈ ਸਹਾਇਤਾ ਦੀ ਲੋੜ ਹੈ ਤਾਂ ਸਾਡੇ ਨਾਲ ਸੰਪਰਕ ਕਰੋ। **01332 255910**

Urdu اگر آپکو اس دستاویز کو پڑھنے میں یا کسی حصہ کا ترجمہ کرانے کی ضرورت ہو، تو ہم سے رابطہ کریں، **01332 255910**

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Part 1: Introduction

Chapter 1

Background, Purpose and Content of Supplementary Planning Guidance

What is Supplementary Planning Guidance (SPG)?

1.1 Supplementary Planning Guidance is guidance which relates specifically to the policies of an adopted local plan and provides further detail to supplement those policies. This SPG has been prepared to supplement certain policies dealing with the reclamation of sand and gravel sites in the Derby and Derbyshire Minerals Local Plan which was adopted under the provisions of the Town and Country Planning (Development Plan) Regulations 1999.

1.2 The new planning system introduced by the Planning and Compulsory Purchase Act 2004, replaces SPG with Supplementary Planning Documents (SPD), but the Act provides transitional arrangements which allow this SPG to retain its status. Under these arrangements the relevant policies of the minerals local plan will be saved for a number of years[1]. This SPG will therefore continue to supplement the policies of the saved plan until they are replaced under the new system. It may then be necessary to review the SPG as SPD.

1.3 The status of the SPG in the planning process, and the procedures that should be followed in its preparation, are set out in Government guidance [Planning Policy Guidance Note (PPG) 12, 1999, at paragraphs 3.15 to 3.18]. This guidance states that SPG can play a valuable role in supplementing the policies of a local plan. It must be consistent with national and regional planning guidance as well as the plan; however it does not form part of the plan itself. SPG should be:

- derived from, and consistent with the development plan and clearly cross-referenced to the relevant policy or policies
- prepared in consultation with the public, businesses and other interested parties, and their views taken into account
- adopted, by Council resolution, as supplementary planning guidance, and
- published with a statement of the consultation undertaken, the comments received and the local authority's response to those comments.

[1] These plans are saved in accordance with the "Derbyshire Minerals and Waste Development Scheme" and the "Derby Local Development Scheme" being prepared by Derbyshire County Council and Derby City Council, respectively.

1.4 Although SPG does not form part of the development plan, PPG 12 at paragraph 3.16 makes it clear that "in deciding planning applications, SPG may be taken into account as a material consideration". Where SPG is derived out of, and is consistent with the development plan, it will be given "substantial weight" in the decision-making process.

The need for Supplementary Planning Guidance

1.5 Policy MP10 'Reclamation and After use' of the Derby and Derbyshire Minerals Local Plan, adopted April 2000[2], states that,

> "Proposals for mineral development will be permitted only where satisfactory provision has been made for the reclamation and after-use of the site as soon as practicable."

1.6 Until the late 1980s, worked-out sites were mainly filled and restored for agricultural use, but reclaiming sites to water for a variety of after uses has become much more common for a number of reasons. The Environment Agency (EA) requirements relating to the filling of sites in the floodplain have become increasingly stringent; and quantities of suitable fill material available for restoring sites have diminished. Priority is no longer given, by the Government to retaining as much land as possible in agricultural use[3]. Furthermore, the opportunities that reclaimed mineral sites offer for nature conservation, landscape enhancement and recreational activities benefiting the local and wider community have become increasingly recognised.

1.7 The reclamation of sites to water, however, has raised a number of issues including landscape character change and the problem of 'birdstrike' in the vicinity of the aerodromes. As a result, the reclamation of mineral workings has become a much more complex issue with a number of competing interests, which must be carefully considered when determining how worked-out sites should be reclaimed and what constitutes an acceptable after use. Each of the interests has its own priorities, constraints and locational preferences, which often conflict.

1.8 During the preparation of the Minerals Local Plan there were a number of general concerns expressed about the reclamation of sand and gravel workings but particularly about the fact that many sites were being reclaimed for water after uses. Accordingly, the undertaking to prepare SPG on this issue was included at paragraph 5.18 of the Plan, which states that,

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[2] An Alteration to Chapter 13 of the Plan to take on board revised Government guidance on coal was adopted in November 2002.

[3] Derby and Derbyshire Joint Structure Plan Approved Explanatory Memorandum January 2001 - Chapter 2 General Development Strategy - paragraph 2.57 -
Amendment to PPG7: the Countryside: Environmental Quality and Economic and Social Development – March 2001

> "… supplementary planning guidance will be prepared on the after-use of worked out sand and gravel sites within the Trent Valley and adjoining area. This will provide guidance on those areas most suitable to be filled, bearing in mind the limited amount of fill material available and the most appropriate after-uses for these sites, for example, agriculture, woodland, nature conservation, recreation."

Aim of the Supplementary Planning Guidance

1.9 The Guidance aims to ensure that a strategic rather than an ad hoc approach is taken to the resolution of conflicting interests between competing after uses and constraints. It will establish a framework of principles aimed at securing a preferred pattern of after uses for worked out mineral sites within the sand and gravel resource in the Trent, Lower Derwent and Lower Dove valleys (i.e. the study area).

1.10 The Minerals Local Plan through Policy MP21 makes provision for sand and gravel working by allocating specific preferred areas (the study sites) where there is a strong presumption in favour of extraction. The study sites also include other permitted sites where detailed reclamation schemes have yet to be approved. The Guidance will set out in detail preferred after-uses for these sites in accordance with the general principles.

Development Control

1.11 MPG7 at paragraph 24 advises that, where proposed after uses for mineral sites include agriculture and forestry or nature conservation and informal recreation which do not involve substantial public use, they do not require a separate planning permission and will be considered as part of the mineral application by the Mineral Planning Authority (MPA)[4]. Proposals for after uses such as major recreational/tourist facilities or built development will require a separate planning permission from the appropriate Planning Authority[5]. MPG 7 at paragraph 10 also stresses the importance of early discussions between the MPA and relevant parties, before the submission of a planning application, to discuss both the working and reclamation of the site.

1.12 The plan-led system of development control requires planning applications to be determined in accordance with the development plan unless material considerations indicate otherwise. Although not part of the development plan this Supplementary Planning Guidance should be taken into account as a material consideration in determining planning applications for sand and gravel extraction in the study area.

[4] Derby City Council within the City boundary, elsewhere in Derbyshire (outside the Peak National Park) Derbyshire County Council

[5] Derby City Council within the City boundary, elsewhere in Derbyshire (outside the Peak National Park) the appropriate District Council

1.13 The Guidance will provide a further input to the development control process, by assisting developers in submitting appropriate reclamation schemes for sites and by informing the general public of the future pattern of after uses for worked out mineral sites in the study area.

1.14 Apart from the minerals local plan, the development plans that are relevant to the study area include the Joint Derby and Derbyshire Structure Plan, the joint Minerals Local Plan, the joint Derby and Derbyshire Waste Local Plan and the Derby City, Erewash Borough, South Derbyshire and Derbyshire Dales District Local Plans.

1.15 In considering the acceptability of after uses regard will be had to any relevant development plan policies and proposals which provide guidance on appropriate uses of land within the study area. The proposed after use will need to conform to:

- any detailed specific proposals for the site (that may be contained in District/City Council prepared local plans)
- any area based policies in which the site is located (e.g. Green Belt)
- any general plan-wide policies including those for protecting people and communities, neighbouring land uses, the landscape character, natural resources and the built heritage from the impacts of the proposed reclamation scheme.

1.16 Additionally there are policies/initiatives of other relevant Government/local authority/bodies affecting the study area, which may need to be taken into account in considering the proposed after-uses of mineral workings. Examples include Airport 'Birdstrike' Safeguarding Zones', the Strategic River Corridors Project, Environment Agency Catchment Management Plans, Tourism Strategies, and Local Transport Plans.

1.17 Of particular relevance is the 'On Trent' Initiative which is intended to benefit local people and the natural and cultural heritage in the parishes along the River Trent. It seeks to reverse the continuing decline in biodiversity by securing a better balance between wildlife and agriculture, commercial activity and development. The prime focus is on creating and managing wetlands where appropriate opportunities arise, and on conserving and enhancing the landscape of the river and its environs.

Opportunities and Constraints

1.18 A range of options exists for the after uses of mineral workings. Reclamation can provide the opportunity to fill the site to original levels, if suitable fill material is available, or the site can be reclaimed for a water use. It can provide the opportunity to return land to its original, or an alternative use, of benefit to the local or wider community.

Opportunities exist, for example, to enhance landscape character, provide additional recreational facilities and increase the biodiversity of an area. In the majority of cases, it will be appropriate to look towards multipurpose uses of land within a single reclamation scheme. Within the options for reclamation, however, there are several potentially competing interests, such as nature conservation, recreation, agriculture and water storage, and the way all these affect the interests of local communities and neighbouring land uses.

Content

1.19 Within this document, Part 1 (this part) identifies the background, purpose and aim of the SPG; it briefly describes the development control process, as it relates to the reclamation of sand and gravel sites, and provides a general introduction to the range of opportunities and constraints that may affect reclamation. It also identifies the study area and study sites. Part 2 examines the main issues affecting the reclamation of sand and gravel sites including the availability of fill material, aircraft safety, water issues, agriculture, landscape character, ecology and recreation. For each issue it explores the planning policy context, the constraints and opportunities involved in reclamation and sets out principles for potential after uses. Part 3 gives consideration to the resolution of conflicts between competing after uses and constraints and establishes a framework of principles to guide the future reclamation of sand and gravel sites. It also sets out detailed guidance for the reclamation of the study sites on a site-by-site basis.

Chapter 2

The Study Area and Study Sites

The Study Area

2.1 The extent of the study area, as shown on Map 1, is defined by the limits of the main economic sand and gravel resource in the Trent, Lower Dove and Lower Derwent valleys. This resource forms a broad corridor running from Doveridge in the Lower Dove valley in the west, and Derby in the Lower Derwent valley, following the Trent valley to the east of Long Eaton. The study area is crossed by three principal road routes, the M1, A38 and A50, which provide good highway connections to the surrounding urban areas including Derby, Burton-upon-Trent, Nottingham, Stoke-on-Trent, Sheffield and the West Midlands. The Nottingham East Midlands Airport (NEMA) lies approximately 2 km to the south.

The Study Sites

2.2 The study sites to which this SPG specifically applies are shown on Map1 and are identified in the following categories:

Minerals Local Plan Allocations

- Attenborough (Long Eaton) Pit (Sites A and B)
- Elvaston
- Chapel Farm, Shardlow (extension to Hemington Quarry, in Leicestershire)
- Egginton Pit (Sites A and B)

Sites with existing planning permission where detailed reclamation schemes have yet to be approved

- Potlocks Farm
- High Bridge Lane
- Egginton Pit
- Chaddesden Pit

2.3 Map 2 shows the active sand and gravel sites together with existing and permitted land uses to which sites have been or have permission to be reclaimed. It indicates that the majority of the former workings in the study area have either been filled and restored to agriculture, or reclaimed to water. Areas reclaimed to water are generally used for informal recreation and nature conservation, angling or as sailing lakes. Recreational and nature conservation uses may also be combined with a water supply function.

Part 2: Constraints and Opportunities

Chapter 3

Infilling Material

Introduction

3.1 A basic consideration in determining the after uses of worked out sand and gravel sites is whether they should be restored to original levels for dry after uses or reclaimed for water after uses. Where restoration to land is preferred, the main potential constraint is the availability of materials that will be acceptable for use in the filling of the voids to restore to former ground levels.

Availability of Fill Material

Pulverised Fuel Ash (PFA)

3.2 Historically, the majority of worked-out sand and gravel workings in the Trent Valley have been restored by infilling with PFA from power stations, a number of which are/were located close by. However, this option has become very much less realistic in recent years for a number of reasons.

3.3 Firstly, in the late 1980s, the electricity generating industry was privatised, leading to the closure of many coal-fired power stations in 'the dash for gas', consequently the total quantity of PFA produced has declined. Privatisation has also led to commercial pressure in the industry to maximise the income from the PFA that is produced. PFA is therefore primarily sold for use in the production of materials for the construction industry. The use of waste materials to produce 'secondary aggregates' accords with the 'sustainability' concept of making the best use of resources by conserving primary aggregates i.e. sand and gravel, and recycling waste materials. In terms of reclamation however, this means that PFA is no longer in such quantities for use as fill material.

3.4 Nevertheless, from the information obtained as part of this study, it is understood that some PFA could be available from neighbouring power stations in the short-to-medium-term. TXU Ash, which acted on behalf of power generators in the area, provided estimates of future ash production at Rugeley [500,000 tonnes per annum (tpa)]; Ratcliffe [500,000 tpa]; and Drakelow [up to 100,000 tpa], although Drakelow has closed. Indications were that a proportion of this ash, perhaps up to 40%, may be available for restoration purposes, although this was difficult to quantify reliably.

3.5 Secondly, increasingly stringent regimes for protecting the environment may reduce the potential of PFA from making a significant contribution

to the reclamation of sand and gravel sites. The Landfill Directive[6] seeks to prevent or reduce the negative environmental impacts of landfills. In implementing this Directive the Environment Agency (EA) through the Landfill Regulations[7], will assess the risk of any proposed landfill on the environment taking into account the nature and quantity of waste involved and the natural setting and properties of the proposed location of the landfill. The floodplain location of sand and gravel sites is a particular consideration in relation to potential impacts of landfilling on surface water, groundwater and flooding.

Inert Waste

3.6 Inert waste is likely to be most suitable for reclaiming sand and gravel sites within the floodplain. Sources of inert materials that are likely to be available are soils from new development sites, and certain construction and demolition wastes. Potentially a high proportion of these waste materials can be recycled as 'secondary aggregates', thereby reducing the need for primary aggregates i.e. sand and gravel to be worked. Less inert waste however will be available for reclamation purposes than may have been in the past.

3.7 Information from the EA indicates that approximately 400,000 tonnes of inert/construction and demolition waste was landfilled at open gate sites[8] within the south-east sub area[9] of the county in 2000/01, the majority of this material being used to restore worked out sand and gravel sites. Unfortunately, there are no comparable figures for other years.

3.8 Since changes in the statutory framework were introduced in October 1999[10], the use of some materials that may be used for restoration purposes has not been liable to landfill tax[11]. There is anecdotal evidence that this is already leading to a significant increase in the quantities of material available. The change appears to be reducing the incentive for un-recycled materials to be absorbed into construction schemes, enabling their release for more positive re-use in restoration schemes.

3.9 A potential source of inert materials in the study area is the Derby and Sandiacre Canal restoration scheme. The material that has been deposited in the cut needs to be removed prior to restoring its use as a canal. It is estimated that a total of between 200,000 and 300,000 cubic metres of inert material might be generated over a 10-year period. However, there is no timescale for this project, which is dependent upon grant aid from the Heritage Lottery Fund and the provision of local funding contributions for its implementation.

[6] Council Directive 1999/31/EC on the landfill of waste
[7] The Landfill (England and Wales) Regulations 2002
[8] Sites licensed to take waste from a variety of sources rather than one particular source
[9] Sub areas defined in the Derbyshire Waste Management Strategy 1999
[10] The Landfill Tax (Site Restoration and Quarries) Order 1999
[11] The Landfill Tax (Qualifying Material) Order 1996

Furthermore, in view of the more stringent definitions of what constitutes inert waste this material would require comprehensive analysis to ensure that it can be classed as inert.

Alternative means of restoring sites

3.10 In view of the shortage of available suitable fill material it is important to investigate alternative ways of ensuring that mineral sites are restored.

- The retention of parts of sites as un-worked areas. This approach would identify land to be excluded from the working area of a site in order to secure acceptable reclamation of the site. Care would need to be taken to prevent the unnecessary sterilisation of mineral resources, which might otherwise not be worked. The excluded tonnage would have to be worked at an alternative site.

- The adoption of differential timescales between the mineral extraction process and the filling of the void. This would, effectively, extend the restoration period to relate more closely to the rate of fill material becoming available. This would increase the proportion of a site that is restored to land, potentially to 100%, but might involve sites being maintained in a semi-restored condition for many years. This approach is likely to be contrary to the Minerals Local Plan (paragraph 5.10), which requires reclamation to proceed broadly at the same rate as extraction and for the whole operation to be completed within a reasonable timescale.

- The use of "under-digging" techniques in selected locations to generate additional restoration materials. This may impact on groundwater resources and any resulting hydrological changes could lead to the dewatering of archaeological deposits. Furthermore, it may result in the formation of deep lakes, which have little bio-diversity or recreational benefits.

- The excavation of a wider area than is necessary for extraction, to generate material to use for landscaping purposes for screening the site, whilst extraction takes place, and to contribute to the final restoration scheme. However, this would require disturbance over a wider area which may result in a greater impact on the environment, and may not be possible within the boundaries of allocated sites.

Conclusions

3.11 Realistically it can be concluded that ‘inert’ waste is likely to be the only suitable available fill material for restoring future worked out sand and gravel sites. However the amount of ‘inert’ material that is likely to be available over the remaining minerals local plan period (i.e. to 2006) and beyond is very difficult to predict.

3.12 The movement of inert waste is not restricted by county boundaries and there may be material available from across the border in Nottinghamshire, Leicestershire and Staffordshire. However, there are also sand and gravel sites within these counties competing for this material. Likewise inert material may be available from other sub-areas within the County but there are also mineral voids within these areas, which require infilling. Additionally, a key theme of the Government's waste management policies is the 'proximity principle' [12] which states that waste should be managed as near as possible to its place of production thereby reducing the environmental costs of transporting waste. This approach, in principle, militates against the transport of inert materials over long distances. However, in practice, the environmental cost of transporting fill material has to be balanced against the environmental benefits of its use for restoration.

3.13 Taking into account information from the EA it is known that approximately 400,000 tonnes of inert/construction and demolition waste was landfilled at open gate sites in the south-east sub area of the county for the year 2000/01. Given that transport costs are a key economic factor in the disposal of waste it is reasonable to assume that this amount of material is being generated within the local area and therefore will possibly be available in the future.

3.14 Of the 400,000 tonnes landfilled approximately 90% was used to restore worked out sand and gravel voids. Several of these sites i.e. Chaddesden and Elvaston are likely to be fully restored in the near future and therefore in theory there should be some material available for filling other sites. However, in practice an examination of the currently active sand and gravel sites, requiring fill material for permitted restoration schemes, reveals that Barrow requires approximately 100,000 tonnes per annum (tpa), Shardlow 200,000 tpa and Castleway Lane 100,000 tpa. Based on recent production rates[13] and current permitted reserves, Barrow and Shardlow are predicted to have a long-term lifespan of between 10 and 15 years, whilst Castleway Lane is likely to be active for 5 to 10 years. In conclusion there appears to be very little spare material for filling any new sand and gravel sites that may come on stream in the short to medium term.

3.15 The Government has published revised guidelines[14] on the scale of provision that needs to be made for the future supply of aggregates (e.g. sand and gravel for the period 2001 – 2016. The new guidelines generally recommend lower levels of provision than the previous guidelines issued in 1994. Under this set of guidelines, apportioned to the County level, the Minerals Local Plan made provision for an annual supply of 2.4 million tonnes. Under the revised guidelines future provision will need to be made for an annual supply of approximately

[12] Waste Strategy 2000, the national waste strategy (May 2000) key considerations
[13] Average production (1997-2001)
[14] ODPM - National and regional guidelines for aggregates provision in England 2001-2016

1.56 million tonnes. Even at this reduced scale, however, new sand and gravel sites are likely to be required, which may lead to restoration problems due to the lack of available suitable fill material.

Chapter 4

Aircraft Safety Issues

Introduction

4.1 Government policy, through Biodiversity Action Plans, seeks to encourage the creation of wetlands, reedbeds and areas of open water to establish ideal habitats for a wide range of species. Similarly the 'On Trent' Initiative's prime focus (see paragraph 1.16) is to create and manage wetlands where appropriate opportunities arise. The reclamation of mineral sites does provide such opportunities especially in view of the lack of fill material (as discussed in Chapter 3). However the increasing creation of wetlands nationally has led to a concern that these would increase the risk of birdstrike hazard around aerodromes. Wetland habitats designed to attract a diverse range of birds may also encourage species hazardous to aircraft. These are generally medium to large birds, particularly if they form flocks, such as gulls, waterfowl, and starlings. This problem has been exacerbated further by the increase in non-migratory large flocking bird populations around urban areas and by the long-term growth in air traffic.

4.2 The threat to aviation from birdstrike hazard affects the study area for a number of reasons. Firstly the Trent and Dove valleys are important migratory routes for a variety of birds including those potentially hazardous to aircraft. Secondly, the wetland areas already created on worked out sand and gravel sites have significantly increased the population of such birds within the study area. Thirdly, there is a long-term shortage of the suitable fill materials necessary to restore sites to dry uses that are less attractive to birds. Fourthly, there are several aerodromes close by Nottingham East Midlands Airport (NEMA) is located only 2 kilometres to the south; there are also smaller airfields at Egginton to the south west of Derby, where the aerodrome is located on a reclaimed gravel site, and at Tatenhill in East Staffordshire.

4.3 The risk of birdstrike is a serious problem for jet turbine aircraft particularly because of the risk of bird ingestion into the engines; jet aircraft fly at speeds that make it impossible for birds to avoid them. For light aircraft the largest risk of birdstrike is upon the aircraft canopy and pilot injury or incapacity as a result of this. Other serious risks of bird impacts on light aircraft are associated with the leading edge of the wing and all of the control surfaces (ailerons, elevator and rudder). It is acknowledged that most light aircraft fly at speeds which often allow birds to avoid them, although the proportion of damage is likely to be higher. It is also important to note the high risk to helicopters which are particularly vulnerable.

Policy Context

4.4 ODPM Circular 01/2003[15] sets out guidance on the safeguarding of aerodromes. Civil aerodromes are licensed primarily in order to ensure that passenger flights use only aerodromes covered by internationally agreed safety criteria. The Civil Aviation Authority (CAA) is responsible for ensuring that a 'licensed' aerodrome is safe for use by aircraft, having regard to the physical characteristics of the aerodrome and its surroundings. This is a continuing responsibility, which it discharges by placing obligations on the licensee to inform it when material changes take place and by ensuring that proposed developments are assessed. In addition the licensee must take all reasonable steps to ensure that the aerodrome and its surrounding airspace are safe at all times for use by aircraft.

4.5 Certain civil aerodromes, selected on the basis of their importance to the national air transport system, are officially safeguarded, in order to ensure that their operation is not inhibited by, amongst other hazards, developments which have the potential to increase the number of birds or the bird hazard risk. Nottingham East Midlands Airport is listed as an officially safeguarded civil aerodrome.

4.6 For each of the officially safeguarded aerodromes 'safeguarding maps' have been issued, and certified by the CAA. The maps indicate to the MPA the type of development on which consultation is required. In order to counter the threat of birdstrike hazard, the maps depict a 13 km safeguarding zone, centred on the aerodrome. Within this zone the MPA is required to consult 'aerodrome owners and operators', before granting planning permission, on any development which is likely to attract hazardous birds. If the MPA is minded to grant planning permission contrary to the advice of the 'aerodrome owners and operators' of officially safeguarded aerodromes, the application may be called in and determined by the Secretary of State. Whilst mineral extraction itself does not attract birds, although wet working and winter flooding might, it is particularly the development of wetland after uses which creates the potential hazard of birdstrike. The safeguarding zone for the NEMA is shown on Map1.

Non-official safeguarded aerodromes

4.7 Circular 1/2003 at paragraph 13 also advises that operators of licensed aerodromes, which are not officially safeguarded, and operators of unlicensed aerodromes should take steps to protect their locations from the effects of possible adverse development by establishing an agreed consultation procedure with the MPA which might include lodging a non-official safeguarding map with it. Consultations resulting from this arrangement should include planning applications that might increase

[15] ODPM Circular 01/2003 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

the risk to aviation from a birdstrike hazard. The MPA will need to give careful consideration to the impact of such development on these aerodromes.

4.8 Tatenhill aerodrome in Staffordshire has set up a consultation procedure with the MPA and lodged a non-official 13 km safeguarding map which covers the western part of the study area. Similarly Derby airport is proposing to submit a non-official 13 km safeguarding map to the MPA for consultation purposes which will cover the central part of the study area. These safeguarding zones are shown on Map1. The safeguarding zones around Nottingham East Midlands, Tatenhill and Derby aerodromes effectively cover the whole of the study area.

A Strategic Approach to the Aircraft Safety Issue

4.9 Circular 1/2003 advises that the MPA will need to consider not only the individual potential bird attractant features of the proposed development but also whether the development, when combined with existing land features, will make the safeguarded area, or parts of it, more attractive to birds or create a hazard such as bird flightlines across aircraft flightpaths.

4.10 The CAA and NEMA (airport authorities) support the approach that the assessment of birdstrike risk should be cumulative and that a strategic view should be taken in its assessment. The totality of risks is different from the site by site risk assessment and risks should be contained overall so that, for example, one risk should be ended before another is created.

4.11 In principle the airport authorities (NEMA and CAA) would prefer all mineral workings within the 13km safeguarding zone to be reclaimed to their former use, primarily agriculture, or other uses that do not attract hazardous birds.

4.12 The airport authorities' response to any proposal for a new site within the safeguarding zone is, initially, to advise against its acceptance and, secondly, to consider mitigating measures that might cause them to withdraw their objection. The primary mitigating measures sought within the 13km safeguarding zone are that:

- there should be no more areas of water
- if gravel extraction must take place, the voids should be filled in with inert materials
- if sufficient inert materials are not available, other wastes might be acceptable subject to legally binding strict management requirements.

4.13 However, if, in any particular case within the safeguarding zone, some increase in the water area is unavoidable the airport authorities would seek a number of stringent safeguards:

- within reclamation schemes the water area to be kept to a minimum
- the water to be concentrated into a single water body or series of lakes dependent upon the perceived type of bird hazard
- the water body must have steeply sloping sides and be of simple shape
- areas of marginal vegetation to be avoided
- a bird hazard management plan must be agreed that is tied to a Section 106 agreement which is binding, in perpetuity; the S106 agreement to be tied to the land to ensure that it passes from one owner to the next
- identified in the S106 agreement should be acceptable levels of bird activity on the site and the definitions of failures of monitoring and controls
- NEMA must have a right of access, to monitor the site for verification of monitoring and control and to take action if the actions of the owner are deemed to have failed.

4.14 There are a number of difficulties with this approach from the planning perspective. Chapter 3 concludes that 'inert waste' is likely to be the only suitable fill material in the floodplain acceptable to the Environment Agency, for restoring future mineral sites and therefore the proposal that other wastes might be used as an alternative is considered to be unrealistic. Chapter 3 also highlights the limited availability of inert materials for filling future mineral voids.

4.15 Relying solely on the use of inert waste and requiring all sites to be filled would inevitably lead to the adoption of differential timescales between extraction and infilling. The airport authorities take the view that they cannot compromise on aircraft safety, and that this situation would be preferable to the reclamation of sites to water because bird control on a transient water feature, of little wildlife value, would be easier to manage and would not be permanent. However, this approach, as well as involving the creation of some temporary water areas, would result in other environmental problems and is contrary to the Minerals Local Plan, as explained at paragraph 10 of Chapter 3 of the SPG.

4.16 Where sites are reclaimed to water within the safeguarding zone the stringent design requirements of the airport authorities would be contrary to landscape and ecology principles which seek to ensure that water areas are as natural as possible, reflect local characteristics and are of biodiversity value. However, resisting proposals on these grounds could compromise Derbyshire's ability to contribute its share of aggregates supply in accordance with the policies of the Minerals Local Plan.

Critical Areas

4.17 In order to attempt to resolve some of the above conflicts and to adopt a strategic approach to the birdstrike issue the County and City Councils had detailed discussions with NEMA, CAA and with the smaller aerodrome operators to explore the birdstrike issue and to establish priorities to assist future decision making. In particular the MPAs sought to establish if there were some areas within the 13 km safeguarding zone where it was more critical to avoid an increase in 'hazardous' bird activity.

Nottingham East Midlands Airport

4.18 NEMA is the main passenger airport serving the East Midlands region; passenger figures are increasing mainly due to the number of low cost companies operating from the airport. NEMA is also the largest 'pure cargo' airport in the United Kingdom. Aviation movements involve both jet engine and light aircraft.

4.19 The 13 km safeguarding zone for the Nottingham East Midlands airport covers the eastern part of the study area, including the study sites Attenborough, Chapel Farm, Elvaston and Chaddesden. The flightpaths of aircraft, when to the north of the airport, takes them over areas where future mineral workings have perhaps the greatest potential for generating birdstrike risk. The general concern is that, with more sites in the area being affected by mineral working, and the doubling of air traffic anticipated by the airport authorities, the birdstrike risk will increase, especially if mineral sites are reclaimed to water areas attractive to hazardous species.

4.20 The airport authorities identified that within the 13 km safeguarding zone around NEMA the 'critical areas' were those lying closest to the airport and below aircraft flightpaths. Taking this into account the airport authorities were asked which of the study sites they considered to lie within 'critical areas'. Chapel Farm, Shardlow was considered the most critical site to avoid hazardous bird activity given its proximity to the airport. Elvaston and Chaddesden were also considered to lie within 'critical areas' due to their location under flightpaths.

Tatenhill Aerodrome

4.21 Tatenhill aerodrome lies in Staffordshire approximately 6 km to the south of the study area; its 13 km birdstrike safeguarding zone covers the western part of the study area. The bulk of aviation movements at Tatenhill involve light aircraft but the aerodrome is licensed to accept small jet engined aircraft and the operator envisages that such traffic may increase in the future. For light aircraft the critical area for discouraging 'hazardous' bird activity is approximately a 3 km zone around the airfield which lies outside the study area. For jet engined aircraft however 'critical areas' cover a wider area because of longer approaches and turning circles required. Jet engined aircraft flying to the north of the aerodrome will encroach on the western part of the

study area and the aerodrome operators would like to see any future sand and gravel sites in this area restored to uses that would not significantly increase the level of 'hazardous' bird activity. The study site at Egginton lies within the 13 km safeguarding zone but none of the study sites lies within a critical area for this aerodrome.

Derby Aerodrome

4.22 Derby aerodrome lies to the south west of Derby. It is sited on a partly restored gravel pit at Egginton which is a study site. All of the aviation movements at Derby aerodrome involve light aircraft. The critical area for discouraging 'hazardous' bird activity is approximately a 3km zone around the airfield and particularly on approaches to and take-offs from runways. The aerodrome operators envisage the business growing and are seeking to expand the site and would like to see this taken into account in any reclamation scheme. In view of the location of the aerodrome adjacent to Egginton Pit, the birdstrike issue is an important consideration to take into account in the reclamation of this site. This matter is dealt with in Chapter 11 which sets out preferred after uses for the study sites including Egginton Pit.

Summary

4.23 It has not been possible to define the extent of the 'critical areas' any more precisely than described above because flight paths may change. NEMA is proposing changes to the way in which the airspace around the airport is currently used. Whether a site lies in a 'critical area' will depend on the closeness of the site to the airport and the closeness of aircraft flight paths to any resultant 'hazardous' bird activity. This will, in any case, have to be assessed in relation to particular proposals in consultation with the appropriate airport authorities. Likewise there may well be sites, lying outside 'critical areas' and even outside 13 km safeguarding zones (the daily movement of gulls between roosts and feeding grounds can involve flights over tens of kilometres), which if attractive to 'hazardous' birds could lead to the birds crossing flight paths and potentially create an unacceptable risk to aircraft safety. Such risk would have to be assessed on an individual basis.

4.24 Although simplistic, the method of adopting 'critical areas' is a means of taking a strategic approach to the birdstrike issue. The identification of 'critical areas' i.e. closeness to airports and flight paths provide a broad indication of areas in which there is the greatest potential for birdstrike hazard to occur. **In principle therefore within 'critical areas' the priority should be to establish after uses that do not attract 'hazardous' bird species.**

4.25 In seeking to address the birdstrike issue the MPAs recognise that assessing the potential risk of birdstrike is a very complex matter combining many inter-related factors. As well as the closeness to airports and flightpaths there are many other factors which need to be considered for example, surrounding land uses, the location, extent and behavioural patterns of existing birds and how these may be

affected by the proposed reclamation scheme. A detailed assessment will need to be undertaken to ensure that the level and type of bird activity likely to be generated by the proposed scheme would not create an unacceptable risk to aircraft safety.

After Uses in Critical Areas

4.26 Within 'critical areas', the priority is to encourage after uses that do not attract 'hazardous' birds, and one option is to fill the site and restore it to its original use usually agriculture. Care should be taken where arable land is involved because crops can provide feeding grounds for 'hazardous' birds. Given the floodplain location of many sand and gravel sites however, pasture is often the original use anyway. As the Government's priority is no longer to retain as much land as possible in agricultural use (see Paragraph 6.2), alternative after uses should also be explored. For example, the creation of wet woodlands would support biodiversity targets aimed at attracting smaller native birds but would not attract 'hazardous' birds.

4.27 In view of the lack of available suitable fill material (see Chapter 3) it is inevitable that some sites within 'critical areas' will have to be reclaimed for water uses. In these instances it will be important to ensure that any water bodies are designed to avoid attracting 'hazardous' birds. Design elements that need to be taken into account include:

- size, shape and number of water bodies (for example, large water bodies could become host to a gull roost whilst smaller water bodies tend to be attractive to waterfowl)
- depth of water
- length and shape of shoreline
- features such as central islands and spits
- aquatic planting
- lakeside vegetation including tree planting
- potential food sources on adjacent land.

4.28 With careful design of these elements the resultant water bodies should be less attractive to 'hazardous' birds. They can however be designed to be of value for smaller native birds along with otters, voles and invertebrates for example. Within 'critical areas' the recreational potential of water areas should also be explored. The design and use of water bodies for sports should reduce their attractiveness to birds, such areas will need to be carefully managed, however, to ensure that any 'hazardous' bird activity does not reach unacceptable levels.

4.29 The preferred location for water after uses, therefore, is outside 'critical areas' where birdstrike should not be an issue. Even outside 'critical areas' however, there may be individual circumstances, as set out at Paragraph 4.23, where the risk of birdstrike risk will need to be taken into account in a proposed reclamation scheme.

Management Plans

4.30 As well as designing water bodies at the outset to discourage 'hazardous' birds it is also important that sites are managed effectively, both in the present and long-term, to control the presence such birds. This can be achieved through a bird hazard management plan jointly agreed by the developer and airport authority. The plan will set out which birds will need to be controlled and the methods of deterring them such as, habitat management, wiring, distress calls of relevant species, pyrotechnics, egg and nest removal or the culling of adult birds. It should also include arrangements for monitoring bird activity, including provision for the airport authority to check that bird activity is kept to an agreed level.

Conclusions

4.31 With the lack of available fill material and the resultant need for more worked out sand and gravel sites to be reclaimed to water the issue of birdstrike is likely to become an increasing problem within the study area. The SPG has attempted to take a strategic approach to this issue through the identification of 'critical areas' in which after uses should aim to avoid increasing the level of 'hazardous' bird activity.

4.32 In principle therefore, priority will be given to directing fill to dry/semi dry reclamation schemes within 'critical areas'. Reclamation schemes for water after uses should ideally be located outside 'critical areas'. However, where a site lies within a 'critical area' and is proposed to be reclaimed for water, any resultant water bodies should be designed to avoid attracting 'hazardous' birds.

Chapter 5

Water Issues

Introduction

5.1 Due to the location of sand and gravel deposits within the river valleys their working and reclamation raises a number of water related issues such as flood risk, groundwater protection, and the impact on the ecological and recreational value of the river corridor. The tighter controls for infilling sites within the floodplain and the resulting lack of available suitable fill material, as discussed in Chapter 3, has led to an increase in water after uses. The creation of water areas has provided several benefits such as increased biodiversity (Chapter 8) and recreational opportunities (Chapter 9). Additional water areas, however, have also led to a potential increase in birdstrike risk (Chapter 5) and have resulted in changed landscapes, in some areas (Chapter 7). Further information on these matters can be found in the chapters indicated; this chapter deals specifically with water issues. The Environment Agency (EA) has a key role in the protection and enhancement of the 'water environment' and therefore the MPAs will liase closely with the Agency on proposals to work sand and gravel sites including their reclamation.

Policy Context

5.2 River corridors are recognised in the Structure Plan as being important for their drainage function, water resources, water quality, nature conservation, fisheries, recreation and their contribution to the character of the landscape. Accordingly, the river corridors of the Trent, Derwent and their tributaries are identified in Structure Plan Environment Policy 4 as environmental priority areas in which the environment should be conserved and enhanced.

5.3 The Derby and Derbyshire Minerals Local Plan through Policy MP4 recognises the need to protect the quality and quantity of water resources, water supply and land drainage and flood protection interests from the impact of mineral extraction and reclamation.

Opportunities and Constraints

5.4 It is recognised through projects such as the Region's Strategic Rivers Corridors Initiative and the 'On Trent' Initiative that the character of the valley of the River Trent and its tributaries has changed over time due to a number of factors such as flood control, drainage schemes, canalisation for navigational purposes, agricultural improvement, mineral extraction and built development, leading to a loss of traditional landscapes, archaeological resources and biodiversity features.

5.5 More recently however, the reclamation of sand and gravel workings, and particularly the creation of wetlands, has been identified as providing an important opportunity to provide areas of water storage and reduce flood risk, re-create traditional landscape characteristics (See Chapter 7) and increase the biodiversity value of the river corridor (See Chapter 8). Wetlands include not just water (still and running) but also reedbeds, wet grassland and wet woodland.

Flood Risk

5.6 The 'On Trent' Initiative states that "The heavy pressure on the catchment and the main river for flood defence has resulted in a heavily modified channel and floodplain throughout the Trent Valley, and removed many of the processes that would naturally operate in the river. While this has substantially improved the protection of property, it has led to significant damage to the natural and historic environment through the loss of wetland habitats and floodplain landscapes, effectively disconnecting the river from its floodplain. The use of flood banks for agricultural land, and increased development has also reduced the area of the historic floodplain that is able to flood, retaining floodwater in the river and increasing the pressure on defences downstream."

5.7 One of the aims of Government policy as set out in Planning Policy Guidance Note 25 (PPG25) is to develop a more natural approach to the management of flooding. PPG25 recognises that floodplains have a natural role as a form of flood defence as well as providing important wildlife habitats and adding to landscape value. The 'On Trent' Study[16] identifies wetlands as providing benefits in terms of water storage and for storm protection and flood mitigation. Wetlands store rainwater and floodwater and release it slowly, preventing or reducing storm surges and flooding in other areas.

5.8 The Study also identifies wetlands as providing sustainable alternatives to engineering options for flood protection. Historically a 'stand off strip' was left unworked between the edge of the river and the mineral workings to prevent the river breaking through into the workings. However, working within this strip up to the river's edge and the subsequent creation of wetlands would provide opportunities for increasing water storage, and for improving landscape character and biodiversity. It would have the added bonus of reducing the sterilisation of mineral resources.

5.9 Proposals to work sand and gravel within the floodplain will need to be carefully considered by the EA, to ensure that their extraction and after use do not increase the risk of flooding to new developments or contribute to increased flood risk. A flood risk assessment (FRA) will need to be undertaken for any proposal within the floodplain of a watercourse or if the size of the proposal will have the potential to

[16] On Trent Baseline Study – Final Version 2004

increase flood risk to neighbouring property, as advised in PPG Note 25. A FRA will typically need to consider (i) the development (ii) the method of working and (iii) the restoration.

5.10 Unless there are satisfactory compensatory measures to off-set any adverse effects, the EA requires that there must be no reduction in the floodplain's ability to store water, including the obstruction of flood flow routes either as a result of the restoration of sites or the final after use proposals. In particular, within the floodplain there will be a presumption against built development, the raising of ground levels or densely planted vegetation, all of which may reduce floodplain capacity and/or restrict flood flows.

Abstraction

5.11 Water quality improvements in the Trent over recent years have allowed the river to be abstracted for potable supply; public water supply is now one of the main abstractions from the Trent. Within the study area water is licensed for abstraction for public supply at Shardlow south of Derby. This scheme developed by Severn Trent Water Ltd, and based on a worked out sand and gravel site, created water abstraction and storage reservoirs with marginal nature conservation interest. Interest has been expressed from water companies to increase the use of Trent water for public supply outside the region and therefore future opportunities may exist to reclaim sites for water storage. However, care will need to be taken to ensure that the natural flows and characteristics of the river and its floodplain are not adversely affected by abstraction and water storage schemes, especially during periods of low flows. Furthermore areas of open water are likely to attract birds which may be a potential hazard to aircraft safety depending on their location.

5.12 The EA will need to carefully consider proposals to work sand and gravel within the floodplain to ensure that their extraction and after use take into account the potential impact on groundwater quality and groundwater resources (including the rights of existing licensed groundwater abstractions) and any consequent impacts on water courses.

Conclusions

5.13 Where appropriate, the opportunity should be taken to create wetlands to provide water storage and militate against flooding. All reclamation schemes will need to protect the quality and quantity of water resources, water supply and land drainage and flood protection interests from any adverse impacts.

General Principles for protection and enhancement of the water environment

5.14 1) The provision of wetlands to increase water storage and militate against flooding will be encouraged.

2) Reclamation schemes must not result in without adequate compensation, a reduction in the floodplain, any obstruction of flood flow routes, or overall contribute to an increase in flood risk, including an increase in flood risk elsewhere.

3) Reclamation schemes within the floodplain will need to take into account the potential impact on groundwater quality and groundwater resources (including the rights of existing licensed groundwater abstractions) and any consequent impacts on water courses.

Chapter 6

Agriculture

Introduction

6.1 Historically, worked out sand and gravel sites were chiefly filled to original levels and returned to an agricultural use. In more recent times, for a number of reasons, but mainly due to the lack of available fill material, sites have been increasingly reclaimed to water and to a variety of after uses, such as nature conservation, recreation and amenity after uses.

Policy Context

6.2 The Government is keen to promote the diversification of the rural economy and priority is no longer given to retaining as much land as possible in agricultural use.[17] This approach is in tandem with the trend that has been occurring in the reclamation of mineral workings, as described above, where sites are increasingly being restored to non-agricultural uses.

6.3 An inherent objective of Government agricultural policy has been the protection of the best and most versatile (BMV) agricultural land (Grades 1,2 and 3a)[18] from being depleted. This objective remains a cornerstone of Government agricultural policy as set out in a ministerial statement in March 2001 (too late to be included in the approved Structure Plan. The new advice is that, 'where the development of agricultural land is unavoidable (as is the case for most mineral extraction), local planning authorities should seek to use areas of poorer quality land in preference to that of a higher quality, except where other sustainability considerations suggest otherwise.' These other considerations could include, for example, bio-diversity, landscape character, amenity value, heritage interest, accessibility and the protection of natural resources.

6.4 Where sites include high quality agricultural land, this needs to be recognised as an important resource, and the advice of DEFRA [19] will need to be sought on any proposal for its development. In reaching a decision on any particular reclamation scheme, there will be a need, in the light of that advice, to weigh the agricultural interests in the balance, together with other sustainability considerations.

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[17] Derby and Derbyshire Joint Structure Plan – Approved Explanatory Memorandum January 2001
Chapter 2 - General Development Strategy – paragraph 2.57
[18] Agricultural Land Classification of England and Wales 1997
[19] Department for Environment, Food and Rural Affairs

6.5 A particular consideration in promoting the reclamation of mineral sites to non-agricultural uses is the resulting impact on the size and structure of the farm unit. Likewise where a proportion of the site is to be restored to agriculture, the area of land must be of a size and location to be operationally and economically viable to the farm unit. This is particularly important in order to secure its long-term management.

Constraints and Opportunities

6.6 Paragraphs 6.7 to 6.10 consider the key issues surrounding the restoration of worked out sand and gravel sites to agriculture in the light of the policy context set out above.

6.7 The main constraint to returning sites to an agricultural use is the lack of suitable available fill material, as detailed in Chapter 3. In view of the Government's policy that there is no need to retain as much land as possible in agricultural use, then alternative non-agricultural uses, which may not require fill material, should be explored for agricultural land that is not classed as (BMV). Guidance on alternative ecological and recreational after uses is set out in Chapters 8 and 9. The impact of such after uses on the character of the landscape, which is inherently agricultural, needs to be considered, as set out in Chapter 7. The potential hazard that water bodies may create in relation to birdstrike and aircraft safety will need to be taken into account, as detailed in Chapter 4.

6.8 Where agricultural land is classed as 'the best and most versatile', then the agricultural value of the land should be taken into account. The desirability of ensuring that the agricultural land is not lost will need to be weighed in the balance against other sustainability considerations such as the importance of biodiversity or landscape character priorities. Clearly, a key factor is likely to be the availability of suitable fill material as set out in Chapter 3.

6.9 An important consideration is whether sites can be restored to non-agricultural 'dry' uses, such as nature conservation or local amenity, and whether the long term agricultural potential of the land can still be maintained because such schemes are potentially reversible. Likewise there may not be a need to reinstate original areas of agricultural land provided that a similar proportion is restored somewhere on the site.

6.10 Map 3 shows the likelihood of land being classed as being the best and most versatile (BMB) for the study area. The accompanying explanatory notes explain the way in which the map has been produced. In general terms the map shows that for land, lying on the alluvial deposits of sand and gravel closely associated with the floodplain of rivers, less than 20% is likely to be classed as (BMV). Often it is the potential risk of flooding which prevents agricultural land from being classed as (BMV). For land, lying on the river terrace deposits which are generally outside the floodplain, between 20% and

60% is likely to be classed as (BMV). For specific sites, detailed surveys will be required to ascertain the presence of (BMV) land. For the allocated study sites, this information was obtained during the preparation of the Minerals Local Plan.[20]

General Principles

6.11 1) Where agricultural land is not classed as 'best and most versatile' (i.e. outside Grades 1,2 and 3a) alternative non-agricultural after uses consistent with other development plan policies should be explored.

2) Priority should be given to conserving the long-term potential of high quality agricultural land but in each case the agricultural interests will need to be balanced against other sustainability considerations.

3) Land restored to agriculture should be sustainable in terms of its value to the farm unit as a whole.

[20] Agricultural Land Classification and Statement of Soil Physical Characteristics – Derbyshire Minerals Local Plan – MAFF 1995 (now DEFRA)

Chapter 7

Landscape Character

Background

7.1 The landscape character of the study area has changed considerably over time not just because of mineral working but due to a number of other factors including flood defences, drainage schemes, agricultural improvement and built development. These changes have led to a loss of traditional landscapes and biodiversity features. As referred to in Chapter 6, in the past mineral sites were mainly restored to agriculture, although not always sympathetic to traditional farming patterns. In more recent times, they have been increasingly reclaimed to open water, which has further impacted on the character of the landscape of the study area in some areas. However, it is important to recognise that mineral working and associated restoration can provide opportunities for enhancing the landscape character through the reinstatement of traditional landscape features such as wetlands, floodplains and woodlands. The challenge today is to strike a balance between new land uses, such as ecology and recreation, and integrate them into the historic but evolving landscape character.

Policy Context

7.2 For a long time the concept of “landscape character” was based on the notion of defining landscape in terms of its "visual quality", resulting in areas deemed to be of particular merit being designated for protection. In recent years, however, the importance of safeguarding the landscape as a whole, rather than just selected parts of it, has become increasingly recognised.

7.3 This was reflected in the approach of the Countryside Agency and English Nature which, in the late 1990s, identified, mapped and described the 'Landscape Character of England' on a national basis without making judgements about their relative worth. The landscape character areas are defined on the basis of similar regional characteristics, which include the particular physical structure - geology, soils and topography - and cultural patterns of land use and settlement, which have developed over time. The study area is in the regional character area defined as the Trent Valley Washlands. In parallel with this English Heritage developed a programme of Historic Landscape Characterisation which looked at the historic processes which affected the development of the landscape.

7.4 The County Council has also adopted this character approach to landscape protection; it has undertaken its own assessment of the landscape character of Derbyshire and is currently developing a complementary historic landscape character assessment (HLC). The landscape character approach, in identifying those features which contribute to the landscape character of a particular area and what needs to be done to maintain, enhance or restore it, provides an effective means of ensuring that development can be accommodated without sacrificing local landscape character. Additionally, the HLC data will provide a means of ensuring that the historic landscape can be taken into account in any reclamation scheme. Development proposals should have regard to the opportunities to contribute to these aims, avoiding elements of visual intrusion and seeking ways to integrate with the inherent landscape character of the area.

7.5 The broad policy context for protecting the character of the landscape is contained in Structure Plan Environment Policy 1[21] as set out below, and will be taken into account in determining suitable after-uses for worked out mineral sites.

7.6 Structure Plan Environment Policy 1: Landscape Character states that, "Development that would have an unacceptable effect on landscape character and diversity will not be permitted. Where development is permitted, opportunities will be taken, as appropriate, to conserve, enhance, and restore the local distinctiveness, character and diversity of the landscape."

Landscape Character Types

7.7 In the County Council's Landscape Character Assessment, the regional character areas have been sub-divided into 'Landscape Character Types', details of which are produced in the County Council's publication 'The Landscape Character of Derbyshire'[22]. Consideration of landscape character should take account of this document which also provides guidance on tree and woodland planting, broad management guidelines and priority habitats by landscape character type. Within the Trent Valley Washlands, there are the following two types relative to the study area, Riverside Meadows and Lowland Village Farmlands.

Riverside Meadows

7.8 Most of the past mineral working has taken place within the Riverside Meadows landscape type as shown on Map 4. This is essentially a pastoral landscape characterised by regular shaped fields bounded by thorn hedgerows. Fields tend to be medium to large in size and the enclosure pattern is a key feature defining the scale of this landscape type and contributing to its character. The thorn hedgerows that bound

[21] Derby and Derbyshire Joint Structure Plan Explanatory Memorandum January 2001
[22] The Landscape Character of Derbyshire - February 2004

the fields tend to be tall growing, limiting or filtering views through the landscape. Today many of these hedgerows are becoming gappy due to poor management.

7.9 The flat floodplain contains meandering rivers and streams although the flat topography, hedges and hedgerow trees restrict views of the river. The river course is usually defined by scattered lines of trees along the riverbanks, mainly alder but with occasional willows and this is often the first visual reference to the line of the river. Many trees have been removed from the riverbanks as part of flood protection works and there is dieback in other places. There are also mature trees scattered along field boundaries, chiefly oak, ash and willow. Pollarded willows form distinct localised features in the landscape and there are localised rushes in damp hollows. Allied to the flat topography the scattered trees assist in filtering views through the landscape. Agricultural use is low intensity permanent pasture. Agricultural land in the floodplain is liable to flood risk which tends to preclude the land from being graded as 'best and most versatile' agricultural land. The Riverside Meadows contain localised areas of unimproved pasture and wetlands which are important for biodiversity as well as landscape character.

River Characteristics

7.10 Chapter 5 on Water Issues highlights the fact that flood defence, drainage schemes and canalisation of the Trent for navigational purposes has resulted in the loss of floodplain landscapes and wetland habitats, effectively disconnecting the river from its floodplain. River features and habitats have also been lost as a result of re-sectioning and dredging. Of the 15 common in-stream features that would be expected in lowland rivers, nearly two thirds are rare or absent. Features such as point bars and mid channel bars are almost completely absent. Similarly the wide variation of bank/type slopes that would be expected on a lowland river has been reduced to almost completely uniform trapezoidal cross section with the consequent loss of visual amenity and diversity.

Lowland Village Farmlands

7.11 Beyond the Riverside Meadows mineral working has also taken place within the more mixed farming areas of the Lowland Village Farmlands. This landscape is characterised by large scale, open, gently rolling almost flat lowland associated with the lower slopes and terraces of broad floodplains. The area contains mixed farming with arable cropping and improved pasture. This is a landscape type often associated with freer draining soils of the river terraces that are not subject to so much flooding due to their slightly raised levels. The field patterns, boundaries and tree cover are very similar to the Riverside Meadows but there is more settlement characterised by discrete villages and outlying farms.

Opportunities and Constraints

7.12 Paragraphs 7.13 to 7.19 consider the opportunities and constraints involved in the reclamation of worked out mineral sites within the policy context of conserving, enhancing and restoring the character of the landscape.

Agricultural After use

7.13 In the past mineral sites were chiefly restored to an agricultural after use, however agricultural improvement and associated flood protection works often led to the loss of traditional landscapes. In future, due to the lack of available suitable fill material, (see Chapter 3) and changes in agricultural policy, (see Chapter 6) it is likely that a smaller percentage of mineral sites will be restored to agriculture which will have a further impact on the character of the landscape in the study area.

7.14 The study area is essentially an agricultural landscape with farming practices reflecting the underlying geology, landform and soils. The Riverside Meadows is characterised by low intensity pastureland whilst the Lowland Village Farmlands supports mixed farming with arable cropping and improved pasture. The primary aim of restoration, in terms of landscape character therefore, should be to fill sites and return them to an agricultural after-use characteristic of the area. However, in view of the lack of fill material and the fact that it is no longer a priority of Government policy to retain as much land as possible in agricultural use, consideration should be given to alternative after uses such as nature conservation or recreation. This particularly applies in the Riverside Meadows where the presence of the floodplain and resultant flood risk tends to preclude agricultural land from being classed as the best and most versatile. In considering alternative after uses however it is important to achieve a process of 'managed change' to ensure that landscape character types are reflected and retained as far as possible.

Ecological After use

7.15 Chapter 8 paragraph 24 sets out the principles for considering ecological after-uses on mineral sites, which includes the aim of increasing habitat provision in the study area especially where they would meet habitat and species action plan targets as set out in the Lowland Derbyshire Local Biodiversity Action Plan[23] (LBAP). Part three of 'The Landscape Character of Derbyshire' identifies Priority Habitats by Landscape Character type, as set out at Appendix 1 Table 1. Reclamation schemes for ecological after uses should seek to include habitats and features appropriate to the landscape character type.

[23] Lowland Derbyshire LBAP (2001 and ongoing) replaces the Mid Derbyshire LBAP published in 1997/8

Water After use

7.16 The lack of available fill material is likely to result in more worked out mineral sites being reclaimed for water uses. An important consideration in determining whether to reclaim sites to water or dry after uses is the level of survival of areas of historic landscape within or in the vicinity of the site. Additionally, the Riverside Meadows landscape area contains existing rivers, streams and other water features, and therefore where the reclamation of sites to water is unavoidable this area is considered to be more suitable for such proposals than the Lowland Village Farmlands. Where sites are reclaimed to water they should be designed to be as natural as possible and reflect natural features which may occur in these landscape types e.g. oxbow lakes. Large areas of sterile open water, as preferred by the airport authorities to militate against birdstrike (see Chapter 4 paragraph 14), are not characteristic of either of the landscape types.

7.17 Within the Riverside Meadows the restoration to more natural river processes, as set out in Chapter 5, may allow for the restoration of appropriate river channels with gravel bars, riffles, pools etc.(but it has to be accepted that this will not be possible where the river is used for navigation). Such features would be more sympathetic to traditional landscapes and potentially benefit biodiversity. Such schemes are unlikely to attract hazardous birds and therefore should not lead to the risk of birdstrike.

Geological Features

7.18 The working of sand and gravel sites may provide opportunities to retain geological features that are of value as educational and scientific resources particularly where workings are located on the terrace gravels above the water table. There are currently three Regionally Important Geological Sites (RIGS) within the study area: Stocker Flats at Alvaston, Sinfin Moor and Hilton Terrace close to Etwall. The opportunity to create further sites, however, is likely to be limited given that the study sites tend to lie on the alluvial deposits below the water table.

Management of landscape

7.19 An important issue is the need for reclaimed mineral sites to be properly managed to ensure their long-term contribution to the landscape. The Mineral Planning Authority will seek to achieve this, where appropriate, through planning conditions or legal agreements.

General Principles for landscape protection and enhancement

7.20 1) Reclamation schemes should aim to conserve, restore and enhance landscape features, as appropriate, that contribute to the local distinctiveness, character and diversity of the landscape type within which the site is located.

In particular:

Key characteristics that have been identified as making an important contribution to the local distinctiveness, character and diversity of the landscape will need to be retained or restored as part of any reclamation scheme. Consideration will need to be given to the desirability of retaining features balanced against any resulting sterilisation of mineral resources.

Opportunities should be taken wherever possible to enhance the landscape by creating features that are characteristic of the area. This is particularly important in urban or industrialised areas where so many original landscape characteristics have been lost. Policy MP8 of the Minerals Local Plan requires planning conditions to be imposed, where appropriate, to retain, protect and enhance trees, woodlands, hedgerows and other landscape features such as lakes, ponds and streams.

2) Reclamation schemes should take into account the level of survival of historic landscapes within or in the vicinity of the site.

3) Proposals to restore sites to non-agricultural after uses will be considered more favourably on land of lower agricultural quality (i.e. not Grades 1,2 or 3a) which is more likely to be in the Riverside Meadows, having regard to the impact on the character of the landscape.

4) Proposals to restore sites to an agricultural after use will be considered more favourably in the Lowland Village Farmlands than the Riverside Meadows. Throughout the study area, however, where proposals are for an agricultural after use they should include features that are characteristic of the landscape type for example:

- ensure appropriate size and shape of fields
- enclose fields by planting hedgerows
- ensure hedgerows are used as field boundaries
- ensure hedgerows are planted with appropriate hedgerow and tree species
- plant riparian trees to emphasise the line of rivers or streams
- ensure appropriate habitat creation.

5) Proposals to reclaim sites for water uses will be considered more favourably in the Riverside Meadows. Throughout the study area, however, where proposals include water areas they should be designed to be as natural as possible and reflect features characteristic of the landscape type, for example:

- scale, small to medium, in keeping with the scale of existing water areas - large areas of open water are not natural features of the study area
- shelving banksides
- irregular outlines
- marginal vegetation
- planting to restrict and filter views
- plant linear features to reflect linearity of the floodplain
- where appropriate create river channels and in-stream features
- ensure appropriate habitat creation.

6) Reclamation schemes for sites lying on the terrace gravels should seek to retain geological features where appropriate

7) The long-term contribution of sites to the landscape should, where possible, be protected by securing their long-term management.

Appendix 1

Table 1: Priority Habitats by Landscape Character Type

1 Primary Habitat – prominent and key characteristic
2 Secondary Habitat – variable and local characteristic

	Riverside Meadows
1	Wet woodland
1	Floodplain grazing marsh (with pollarded willows)
1	Rush pasture
1	Reedbeds
1	Lowland fen meadows
1	Neutral (unimproved) grassland
1	Standing open water and canals
1	Rivers and Streams

	Lowland Village Farmlands
1	Cereal field margins
1	Neutral (unimproved) grassland
2	Ancient and semi natural broadleaved woodland
2	Wet woodland
2	Veteran trees
2	Standing open water and canals
2	Rivers and Streams (river corridors)

Chapter 8

Ecology

Background

8.1 The study area is recognised as being of ecological importance in Derbyshire. It contains significant areas of national priority habitats and supports viable populations of national priority species. Farming is the main land use, primarily comprising improved grasslands with arable areas where land lies out of the floodplain. Remaining areas of traditional semi-natural habitats such as wet grasslands and marshlands, small field ponds and ditches, species rich grasslands and wet woodlands have been marginalised or are isolated. There has been a considerable loss of hedgerows removed to enlarge arable fields, or which have been neglected.

8.2 The rivers themselves and their associated valleys are recognised as valuable wildlife corridors, both for terrestrial animals and for birds on migration. However, flood defence work, re-sectioning and dredging of the River Trent channel for drainage and navigation have resulted in losses of wetland habitats and floodplain landscapes, effectively disconnecting the river from its floodplain. In-channel river features and differing bank types and slopes have also been lost. All of theses changes have resulted in major losses of biodiversity. The absence of in-stream features has also prevented the development of fish stocks, with serious economic consequences.

8.3 The reclamation of mineral workings is recognised as providing an important opportunity to increase biodiversity. Mineral extraction has in the past provided, along the river corridors, a number of sites mostly in open water, which are important ornithological habitats. The smaller and older sites, such as Hilton Gravel Pits, have had many years to re-colonise in a more biodiverse rich landscape and provide a rich variety of habitats for plants, invertebrates, mammals, and birds. Working or unrestored quarries can themselves develop significant features including some priority species.

Policy Context

8.4 Paragraph 1.11 sets out the requirement that proposed after uses will need to be in conformity with development plan policies. General policies for nature conservation are set out in the Structure Plan whilst more detailed policies can be found in local plans.

Protection of Sites and Features of Nature Conservation Importance

8.5 The Structure Plan Environment Policy 14 sets out the need to protect sites and features of nature conservation importance. It emphasises the importance of giving the highest level of protection to international and nationally important designated sites, including Special Protection

Areas, Special Areas of Conservation, Sites of Special Scientific Interest and the habitats of protected species.

8.6 It also sets out the need for the appropriate level of protection for local nature reserves and non-statutory sites of importance for nature conservation, including wildlife sites and regionally important geological sites. Furthermore it seeks to protect sites supporting locally rare or endangered species, and habitats identified in local biodiversity action plans or landscape features, which are of major importance for wild fauna and flora.

Enhancement and Creation of Habitats

8.7 Structure Plan Environment Policy 15 sets out the need to enhance the range and quality of natural heritage sites and landscape features. The reclamation of mineral sites provides the opportunity to create and enhance new and existing nature conservation sites and landscape features. The long-term management of such sites, which are rarely self-sustaining, is also an important consideration and can often be achieved through legal agreements.

Opportunities and Constraints

8.8 Paragraphs 8.9 to 8.23 consider the opportunities that worked out mineral sites can provide for nature conservation in the light of the policy context set out above. Also examined are the constraints involved in creating nature conservation after uses, including conflicts with other after uses such as recreation. It is interesting to note that working quarries may be occupied by important species during their functioning years and the presence of such plant or animal species should be taken into account in determining final restoration schemes.

Sustainability of sites

8.9 Worked out mineral sites have, in the recent past, provided a number of sites mostly in open water which have become established as important ornithological habitats. However, whilst they provide some biodiversity benefits for particular species large open water areas are not a characteristic habitat of the study area. In order to maximise the opportunities that worked out mineral sites provide for nature conservation, habitats need to be created that:

- are appropriate and characteristic to the area
- have a reasonable chance of successful establishment
- are not isolated but connected to rivers or other habitat corridors or nodes
- will be relatively robust i.e. capable of maintaining their value without intensive management
- can be returned to agricultural management or, if not, require the minimum of long-term management
- have security in the long-term.

Priority Species and Habitats

8.10 Biodiversity Action Plans are important measures for conserving and enhancing habitat types and species. The Lowland Derbyshire LBAP provides action plans for 'priority' habitats and species occurring in Derbyshire i.e. those identified nationally as being under greatest threat or decline, together with other habitats and species of importance or characteristic to the local area. The reclamation of mineral workings is identified as an important opportunity to make a contribution to local biodiversity targets[24]. The priority habitats and priority species identified in the Lowland Derbyshire LBAP are set out in Tables 1 and 2 at Appendix 2.

Ornithological priorities

8.11 The breeding and wintering value of the Trent and Dove Valleys is concentrated on and around the previous worked out mineral sites that have been reclaimed for water uses. Individual sites have rich bird assemblages, some areas are most valuable for wintering birds or birds on migration, whilst others support a high number and diversity of nesting birds. The remaining limited areas of floodplain grasslands and semi-natural woodland provide locally important bird habitats. English Nature have identified priority and notable species for the Natural Area [25] as a whole, which are set out in Table 3 at Appendix 2. Specific Derbyshire priorities have yet to be identified.

Habitat priorities

8.12 River Channels

The acceptance of the desirability of restoring more natural fluvial processes may provide opportunities at appropriate sites for gravel extraction right up to the river's edge, without requiring a stand off, though this will not be possible where the river is used for navigation. The consequent natural processes which could create braided river channels with gravel bars, riffles, pools and varied banks would be of great variety to biodiversity, but would not cause birdstrike problems because they would not attract the larger hazardous birds of open water such as gulls, geese or large numbers of wildfowl.

Open waters

8.13 Previous sand and gravel extraction has provided a number of open water sites, which are of strategic ecological value. However, this is not a characteristic habitat type in the study area and the provision of further extensive areas, particularly if these are not accompanied by appropriate land based habitats to maximise their value, will not provide for the species characteristic to the area. With the shortage of suitable infilling materials, explained in Chapter 3, new open waters may be deep, relatively unproductive (i.e. providing little food) and lacking in marginal features.

[24] The potential contribution of the Mineral extraction industries to the UK BAP. English Nature Research Report No. 279 1998 in conjunction with QPA and SAMSA.
[25] Trent Valley and Rises Natural Area Profile EN 1997

8.14 If open water is intended primarily for nature conservation, its design should include shallow areas, marginal vegetation, islands, spits and bays to maximise biodiversity value. Where management can be guaranteed and the site is designed specifically for priority species then bare, gravel topped areas may be included. Direct connectivity with the river system is also valuable to create wildlife corridors and ensure habitat continuity; it can also provide a refuge for fish populations. Whilst fishing is often seen as an appropriate after use for large areas of open water, care should be taken, however, to consider potential otter predation if game fisheries or carp waters are envisaged. A major conflict of interest in creating further areas of open water is the issue of birdstrike which is discussed in Chapter 4.

Reedbeds and marshlands

8.15 Limited areas of reedbed and marsh have established naturally on some of the older extraction sites and have been retained in reclamation schemes. Extensive areas of reedbed are to be established as after uses in some of the newer permissions, utilising silt beds and available material to create shallow margins. Reedbed, marshes, ditch systems and small ponds were characteristic of the study area prior to intensive agricultural practices. Re-creation would be highly desirable, since their ecological value is high for invertebrates, small birds and mammals. The opportunity should be taken to incorporate these habitats within reclamation schemes wherever possible.

8.16 Connectivity of reedbeds and marshlands to existing ditches, small brooks or rivers is highly desirable to ensure continued wetness. Even small reedbeds or marshes, if appropriately located, can be beneficial, and these can be incorporated on the peripheries of reclamation schemes where the primary after use is to be recreation, agriculture or industrial development. Indeed, reedbeds can be used to treat and filter small quantities of waste and foul water i.e. Sustainable Urban Drainage Systems (SUDS).

Floodplain grazing/Wet Grasslands

8.17 Infilling of worked voids to relatively low levels e.g. at or just above the water table, would provide the opportunity for re-creation of this habitat type. However, due to the potential shortage of suitable fill, this habitat probably has the least opportunity for re-creation of all the priority habitats in the valley. Although the re-creation of even limited areas would be of value, it is important to consider ongoing management. Grazing provides the best management regime; if areas are sufficiently dry stock should be excluded from the grazing pasture during the summer months until it is harvested as a hay crop. Thus, re-creation of wet grassland should be considered as part of agricultural holdings and not as solitary 'nature conservation' sites.

Species rich grassland

8.18 This habitat is extremely limited in the study area. Creation of any significant areas is likely to be limited by lack of suitable fill. Where opportunities do occur, they should be considered in connectivity with other habitats and not in isolation, and their ongoing management should be assured.

Wet woodlands

8.19 This habitat is at the very margins of survival in the study area. Existing fragments are very small and isolated. It is important to seek to enhance any existing sites by improving connectivity with drainage systems and flood plains. New wet woodland creation could be very valuable, particularly if associated with other habitats and connected to main watercourses and wetlands to enable use by larger mammals.

Species habitat priorities

8.20 **Great crested newts** retain a limited presence in the study area. Provision of the smaller wetland habitats prioritised above would directly benefit this species.

Water vole are under threat through habitat loss and spread of mink in this area but again the wetland habitats proposed would be helpful, together with the improvement of river bank habitats.

Otters require the development of bankside habitats or habitats connected to the river to enable establishment of holts. The majority of the river margins in the study area are intensively farmed and encroachment to riverbanks results in the lack of marginal aquatic vegetation, scrub or trees, so that the immediate river margins have only limited areas of willow and alder. For otters it is a priority that new bankside habitats should be carefully integrated within the design of each site to ensure that uses are appropriately zoned to avoid disturbance. Even where biodiversity is not the primary use opportunities for otters can be provided.

Bat species use the study area to forage over; being particularly attracted to open water, wetland features or hedgerows where invertebrate populations are high. Creation of appropriate habitats can improve foraging potential. Mature trees, especially old pollarded willows or large ash trees can provide summer roosting and breeding sites. The retention within schemes of these mature features is of importance, because of their future potential, even where they do not currently support roosts.

Brown hare require restoration to open, agricultural land; this is unlikely in many instances given the lack of availability of suitable fill.

Skylark prefers open and extensive habitats but some marginal open grassland surrounding wetland areas could be of assistance, especially if grazed.

Little Ringed Plovers are primarily attracted to bare, open ground for nesting. Active mineral extraction sites can be of value in this respect. Operators need to be aware of the special legal protection afforded to Little Ringed Plovers' nests. Restoration which includes islands with bare ground can be valuable in providing nesting sites for the longer term, but these must be carefully designed if they are to retain their value for Little Ringed Plovers in the long term.

Song thrushes utilise any habitats with trees and bushes but moist open grassland is a preferred location for foraging. Restoration schemes should seek to provide areas of damp pasture as foraging opportunities.

Reed bunting require reed beds, edges of wet woodlands and tall herbs. The peripheral areas of active mineral sites are often attractive. Restoration should seek to provide mosaics of wetland habitats, particularly where these can be linked with others and not isolated.

Linnet, Bullfinch and farmland birds in general could find useful habitats for nesting and autumn and winter feeding on fruits and seeds if sufficient scrub areas were allowed to develop; this would interface with adjacent intensively managed farmland. However, the requirement to allow free flow of waters during flood times militates against scrub in the floodplain.

Crayfish, is a priority within the Natural Area, though its distribution is very limited, primarily associated with the Dove catchment.

Black poplar Wetlands, backwaters, regularly flooded areas and less intensive management should all benefit this species which would initially require to be introduced specifically from local genetic stock.

A Network of Nature Conservation Sites

8.21 The establishment and maintenance of a network of sites and features, which provide wildlife corridors, links or stepping stones from one habitat to another is important. Such a network will ensure that sites of wildlife value do not become isolated and it will help maintain the current range and diversity of wildlife, flora, fauna, and geological and landform features and the survival of important species.

8.22 The SPG has identified a network of key biodiversity sites and corridors supporting habitats of strategic importance.

The key biodiversity sites have been chosen using the following criteria:

- individual or groups of Wildlife Sites, which provide a complex of priority habitats in the context of the UK or Local Biodiversity Action Plan
- sites currently, or proposed, as Nature Reserves (either statutory Local Nature Reserves[26] or sites managed as nature reserves by Derbyshire Wildlife Trust or other organisations)
- sites which are not Wildlife Sites and for which species records are limited but which have potential for increased biodiversity if managed sympathetically (eg extensive areas of wet grassland).

8.23 The key sites are shown on Map 5 and a description of each site can be found in Table 4 at Appendix 2. This framework will be used to identify appropriate locations to create new nature conservation sites and thereby enhance this existing network of sites.

General Principles for Ecological after uses

8.24 1) The creation, enhancement and setting up of mechanisms for the management of new and existing habitats and landscape features will be encouraged even where nature conservation is not the primary end use of a site. Such sites need to be designed and managed carefully to avoid conflict with other land uses.

2) Reclamation schemes will be encouraged to work towards habitat and species action plan targets in the Lowland Derbyshire Biodiversity Action Plan. Habitats that will be particularly encouraged include enhanced river channels with a variety of in-channel features, open water (designed to maximise its value for wildlife); reedbeds and marshlands; grazing meadow, wet grasslands and species rich grassland; and wet woodland.

3) Reclamation schemes for nature conservation after uses should be designed to aid the connectivity, and prevent the isolation, of key biodiversity sites. A particular aim is to enable species using the river and riverbanks to have access to newly created habitats on site.

4) The setting up of mechanisms for the long-term sustainable management of habitats is an important consideration. Where appropriate the MPA will seek legal agreements to achieve this.

[26] Declared by local authorities under the National Parks and Access to the Countryside Act 1949

Appendix 2

Table 1: Lowland Derbyshire LBAP Priority Habitats

Broad habitat type	Priority habitats	Priority
Wetlands:	Running water	National priority
	Standing water	National priority
	Reedbeds	National priority
	Lowland swamp and fen	National priority
Grassland:	Wet grassland/ Floodplain grazing	National priority
	Lowland hay meadow	National priority
	Neutral Species rich grassland	Local priority
Woodland:	Wet woodland /carr	National priority

Table 2: Lowland Derbyshire LBAP Priority Species

Species type	Protection	Priority
Great crested newt	Legally protected	National priority
Water vole	Legally protected	National priority
Otter	Legally protected	National priority
Bats - all species	Legally protected	National priority
Brown hare		National priority
Skylark		National priority
Little ringed plover	Legally protected (Sched1 W&C Act)	Local priority
Song Thrush	Legally protected	National priority
Reed Bunting	Legally protected	National priority
Linnet/Bullfinch and farmland birds in general		National priority
White clawed crayfish	Legally protected	National priority
Black poplar		Local priority

Table 3: English Nature Priority and Notable species for the Trent Valley and Rises Natural Area

Gadwall	Lapwing	Common Tern
Pochard	Barn Owl	Kingfisher
Teal	Breeding LRP	Corn Bunting
Shoveller	Hobby	Tree Sparrow
Grey Partridge	Redshank	
Golden Plover	Oyster Catcher	

Table 4: List of key biodiversity sites

Hilton Gravel Pits Derbyshire Wildlife Trust (DWT) Nature Reserve, Site of Special Scientific Interest: complex of wet woodland, ponds, open water, grassland with ornithological, invertebrate, floristic and amphibian value.
The Trent, Dove and Derwent Rivers: major wildlife corridors, especially for protected species.
Egginton Pits South Derbyshire (SD) 335 and SD 267: major complex of wetlands attracting birds, with some floristic interest.
Repton Gravel Pits SD 382 and adjacent areas being reclaimed – important complex of reed bed, open water, bare ground and wet grassland. Nature Reserve to be established.
Twyford Greens SD340: Limited areas of grassland, ditch etc, floristic and invertebrate and amphibian/reptile interest.
Swarkstone extension. Nature Reserve to be established: Reed bed, open water, bare ground and grassland of floristic interest.
Swarkstone Pit SD 125, SD 126 and SD131: Open water, grasslands, scrub, ponds. Ornithological, floristic, invertebrate value. Small nature reserve to be established.
Witches Oak Water: Series of lakes, reed beds and grasslands designed for water storage and managed for priority biodiversity species including water vole, otter, invertebrates, amphibians and reptiles.
Attenborough proposed nature reserve: will be small scale of limited potential
Attenborough SSSI: most of which is Nottinghamshire WildlifeTrust nature reserve.
The Sanctuary, Pride Park: newly established bird reserve with grassland and newly created lake habitat managed for key national and local biodiversity bird species.
Chaddesden Quarry Candidate Wildlife Site – Ongoing surveys are identifying complex mosaic of habitats; breeding Schedule 1 bird populations, local and national BAP and Red Data Book species, including Dark Bush Cricket.

Chapter 9

Recreation

Background

9.1 The study area already provides significant recreational opportunities for activities such as bird watching, angling, flying, sailing, cruising and canoeing on the rivers, canals and on reclaimed gravel workings. The area also accommodates a variety of informal recreation activities including picnicking, horse riding, cycling and walking centred both alongside the waterways and on the surrounding countryside. A number of important strategic recreational routes and trails, for cycling, horse riding and walking, also cross the study area.

9.2 Although most of the previously worked sites have been reclaimed for agriculture or nature conservation, a number of important water-based recreational facilities have been created at Swarkestone Pit and Attenborough Pit, Long Eaton (see Map 2). In addition significant water-based recreational facilities not related to mineral working exist very close to the study area at Foremark and Staunton Harold reservoirs to the south. A further important recreational facility located on restored land at Egginton Pit is Derby Aeroclub and Flying School.

Policy Context

9.3 Chapter 1 paragraph 11 outlines the requirement that proposed after uses will need to conform to development plan policies. General policies for recreational development are set out in the Structure Plan whilst more detailed polices can be found in local plans.

General Principles

9.4 Structure Plan Leisure and Tourism Policy 1 sets out the general principles that new recreational facilities should be capable of being served by a range of transport modes, close to centres of population and accessible to and provide opportunities for greater participation by all sections of the population. The main centres of population close to the study area are Derby to the north, Long Eaton in the east and Swadlincote to the south. Outside Derbyshire, Nottingham to the east and Burton-upon-Trent to the southwest are close by. The study area is crossed by three principal road routes, the M1, A38 and A50 which provide good highway connections to the surrounding areas. The area is well served by bus routes and there are 3 railway stations within the study area at Long Eaton, Willington and Hatton.

Locational Principles

9.5 Structure Plan Leisure and Tourism Policy 2 encourages the development of new recreational facilities provided that their impact upon other land uses and local communities is acceptable and that the volume of traffic likely to be generated is in keeping with the capacity of

the local transport network. It identifies different areas in which different sorts of new recreational development will be suitable, including areas which relate to this study area (as shown on Map 6):

- the East Derbyshire Woodland Project area - for the provision of general leisure and tourism development

- the Trent Valley and Lower Derwent Valley - for the provision of water-based and informal leisure facilities related to reclaimed gravel workings

- green belt areas - for the provision of outdoor sport and recreational facilities on the urban fringe. Here, facilities that are essential in connection with existing facilities such as small changing rooms or unobtrusive spectator accommodation may be acceptable, but developments that would predominantly depend on new buildings would not normally be allowed.

Specific Recreational Facilities

9.6 Structure Plan Leisure and Tourism Policy 3 makes provision for different types of recreational facilities. Specifically highlighted is the need to develop recreational cycle routes, bridleways and long distance and circular walks, especially where they would make use of existing towpaths, disused railway lines and other linear features and where they would link settlements with existing facilities and routes, and with the countryside. In the study area, an important consideration in reclaiming mineral sites will be the opportunities provided for creating linkages to any of the existing or proposed recreational routes which cross the area, including:

- the National Cycle Network, Dover to Inverness route, (Burton-upon-Trent to Derby, Derby to Nottingham, Derby to Little Eaton, Derby to Melbourne legs and the Pennine Cycleway)
- the Midshires Way
- the Nutbrook Trail
- the Derwent Valley Heritage Way
- the Trent and Mersey Canal Towpath
- the Riverlife Way
- the Trent Valley Greenway (Newark to Long Eaton) (Proposed)
- the Great Northern Greenway (Mickleover to Egginton leg) (Proposed).

9.7 These routes are currently at various stages of development. Their purposes include footpath, bridleway, cycleway or multi-user. The broad lines of these routes are shown on Map 6.

9.8 Policy 3 requires that provision should be made for development of a wide range of recreational facilities in association with water areas, having regard to water supply and drainage functions and

conservation. Especially given the lack of suitable fill material, there may be opportunities for new water recreation facilities in the study area to be created as part of reclamation schemes, even if some of these may be temporary.

9.9 Policy 3 also states that provision should be made for the development of recreational facilities in accordance with local requirements and opportunities particularly in locations accessible by public transport. The accessibility of the study area is discussed at paragraph 9.4. Local requirements for facilities are set out at paragraphs 9.11 to 9.13 below.

Activities with Special Locational Requirements

9.10 Structure Plan Leisure and Tourism Policy 4 identifies the need to make provision for recreational activities that have specialised needs or characteristics that may lead to difficulties in finding suitable sites, for example noisy activities, such as jet skiing, off-road driving and recreational flying. In making such provision regard should be had to considerations of residential amenity, landscape, nature conservation and water resource interests and to ensuring that recognised important natural resource and built heritage features are not harmed by such development. Reclamation schemes could again provide opportunities for such facilities.

Assessing local demand for facilities

9.11 It is acknowledged that the demand for outdoor recreation has, on the whole, risen. However, very little hard statistical information is available either for the analysis of participation in outdoor activities or on the demand for facilities in the study area. Nevertheless, the largely anecdotal evidence we do have indicates that participation in outdoor sport and recreation has continued to rise generally over the past decade.

9.12 In order to identify what information was available on the demand for facilities within the study area, discussions were held with key organisations. These included Severn Trent Water Plc, British Waterways, Countryside Agency, Environment Agency, The British Horse Society, Derby Aero Club and the County Countryside Service and Outdoor Recreation officer, as well as Sport England. These have provided qualitative information based on the recent experience of those involved in the management and provision of facilities in the study area.

9.13 The activities in greatest demand appear to be fishing, jet skiing, off-road driving, recreational flying, horse riding, cycling and boating. Of these, fishing, flying, cycling, horse riding and boating are currently accommodated in the study area. Although the demand for these activities remains high at the present time and additional facilities are always being sought, the potential for fluctuations in demand needs to be taken into account as far as possible in the flexible design and management of after uses.

Opportunities and Constraints

9.14 Paragraphs 9.15 to 9.23 consider the opportunities that worked out mineral sites can provide for increasing the range of recreational facilities in the light of the policy context set out above. Also considered are the conflicts involved in providing recreational facilities both amongst the activities themselves and with other land uses.

Recreational facilities for which there is a demand

Fishing

9.15 Fishing is a quiet pastime, incompatible with noisy pursuits such as off-road driving and jet skiing. Fishing can usually be accommodated alongside other quiet after uses such as riding, cycling or informal recreation and may also be compatible with sailing and boating, although there is potential for conflict here due to disturbance by boat movements. Fishing may also disturb wildlife interests. However, careful site design can help to reduce these conflicts to a minimum and with careful management fishing can be accommodated on most sites with water.

Jet Skiing and Off-Road Driving

9.16 Both jet skiing and off-road driving are potentially noisy, disturbing activities which require parking facilities and good access to the highway network. They should, therefore, be carefully located to avoid disturbance to local communities. Jet skiing requires open water of approximately 12ha in area and changing facilities, while off-road driving courses require sites to be restored by filling and may require security fencing and safe storage areas. Such uses may also require raised ground levels, which may conflict with groundwater and flood protection requirements in the river valleys. Similarly, the scale and design of these facilities may conflict with policies relating to landscape character. There are therefore limited locations where these activities can be suitably located. As both jet ski-ing and off-road driving have similar locational requirements and constraints, there is potential for them to be accommodated on the same site where workings can be partially filled to provide a driving course and developed as open water for jet skis.

Recreational flying

9.17 Derby Aero club and flying school is located on a partly reclaimed gravel site at Egginton (a study site) to the south west of Derby. The club provides flying lessons and aircraft hire; business is continuing to grow and the aerodrome operator is seeking to expand the site. Future reclamation of the Egginton site may provide land to extend the aerodrome, as set out in Chapter 11; the environmental impact of any expansion to the aerodrome would need to be taken into account.

Horse Riding

9.18 Horse riding is a quiet activity requiring good access to the highway and rights of way networks. It is therefore suggested that any sites considered for the development of riding circuits should be capable of being easily connected to bridleways, quiet roads or long distance routes which cross the study area. This may reduce the reliance on the highway network for horse riding, with its associated dangers to riders, horses and other road users. As with cycling routes, horse-riding circuits could be provided around other facilities or land restored for agriculture.

Boating

9.19 Boating already takes place within the study area along the rivers Trent and Derwent and along the Trent and Mersey and Erewash Canals. Marinas already exist at Great Wilne, Shardlow, Swarkestone and Stenson. Worked out mineral sites may provide opportunities for developments connected to the canal and river network to provide facilities for boat users such as moorings, marinas and other waterside facilities.

Cycling

9.20 Due to increases in the level of traffic on roads and growing popularity of cycling generally, there are needs and opportunities to provide cycling routes linked to highways or recreational routes, as part of many restoration schemes. In addition there is now demand for off-road facilities that replicate road racing conditions and those which are suited to mountain biking. Road racing and time trial facilities require a metalled surface. As cycling is not an intrusive activity compatible with many other uses and only requires a narrow, linear route, it could be provided around the edges of water bodies or land restored for other purposes. Mountain bike courses could be provided in a more compact form by the design of a more convoluted route, although raising ground levels to create jumps could lead to conflicts with groundwater and flood protection constraints and landscape character considerations.

Recreational facilities not in wide demand

Canoeing

9.21 Canoeing is still growing in popularity but is mainly attracted to rivers such as the Trent. Enclosed waters such as those created by restored mineral workings are of only limited use to canoeists, for training purposes. Although the enclosed waters created by restored mineral workings are unlikely to attract canoeists, there remains considerable demand for canoeing in the rivers of the study area. Opportunities may exist for restored mineral workings adjacent to rivers to provide facilities associated with canoeing, including, for example, access to the water, car parking, changing facilities and picnic and rest areas.

Sailing, Water Skiing and Sub-Aqua Diving

9.22 Sailing and water skiing appear to be reasonably well catered for in the study area. Levels of demand for sailing are thought to be static or even declining. In the case of sub-aqua diving, although there is demand, the waters provided by sand and gravel workings are generally too shallow and tend to have poor visibility. It is not anticipated that the provision of additional facilities for these activities would, in general, be warranted.

Informal Recreation

9.23 The demand for other forms of informal recreation, such as picnicking and walking, is difficult to quantify. However, the provision of additional facilities such as picnic sites, which may be connected to other activities on the same site, would provide a valued recreational resource and offer the opportunity for the management of demand by providing attractions away from the fringes of the Peak National Park. Such sites may include for example, picnic sites associated with long distance routes, bird hides and areas from which to view other activities taking place on reclaimed mineral workings. It is important that such facilities are capable of being accessed by a range of transport modes. Such informal recreation activities could be accommodated on most sites where public access will be permitted. However a possible conflict is with nature conservation after uses where unrestricted public access may not be desirable.

Principles for recreational after uses

9.24 1) The provision of recreational after uses as part of reclamation schemes will be encouraged where they accord with the following principles:

- they should be capable of being served by an appropriate range of transport modes, be accessible to centres of population and provide opportunities for greater participation by all sections of the population
- the volume of traffic likely to be generated should be in keeping with the capacity and character of the local transport network, and there should be an appropriate level of parking provision
- they should have an acceptable impact on local communities or other neighbouring land uses; this requirement should be taken into account in both the location of an after use and in its detailed design and management
- they should have an acceptable impact on the environment generally and on interests of acknowledged environmental importance in particular, (including their impact on surface or ground water, water conservation and flood protection interests).

2) On sites that lie within the area of the East Derbyshire Woodland Project, opportunities should be taken to develop recreational after uses which reflect the project's aim of creating managed public access to the area and which facilitate, or link with, woodland trails and other facilities.

3) On sites that lie within the Green Belt, after use development should not impinge on the openness of the Green Belt nor conflict with the purposes of including land within it. Any new buildings should be small in scale and essential for the above uses.

4) Recreational after uses should be developed to provide for appropriate combinations of after uses, in particular fishing; cycling and horse riding; facilities associated with boating or canoeing (if adjacent to existing waterways); informal recreation; and off-road driving or jet-skiing according to local demand.

5) Where opportunities allow, sites should be developed to provide for a range of water-based after uses including those associated with the development and restoration of waterways, having regard to water supply, drainage functions and conservation interests.

6) On any site, or part site, where public access is to be allowed, the development should provide for:

    - multi-user recreational routes (walking/cycle routes, bridleways) which, wherever possible, link to existing or proposed off-road routes or quiet roads, especially where these would create circular routes or links to longer distance routes to settlements, or create links to towpaths, disused railway lines or other linear features
    - informal recreational facilities, or areas, that are compatible with, and complementary to, other uses on the site and nearby.

7) Where recreational activities are proposed to be a major component of site after use, flexibility will be important so that different uses can be accommodated as demand varies over time. Where sites are to be in multiple recreational use, appropriate management arrangements will be sought to ensure uses remain mutually compatible.

Part 3: Planning Guidance

Chapter 10

Guiding Principles for Future After Uses

Introduction

10.1 This SPG has shown that the reclamation of sand and gravel workings has become a very complex issue with many competing and conflicting interests at stake. The lack of available suitable fill material has meant that sites have been increasingly reclaimed for water uses. This trend has raised a number of concerns including; increased potential of birdstrike in the vicinity of the Nottingham East Midlands Airport and smaller aerodromes; loss of agricultural land; changed landscape character of the river valleys and the need to find appropriate uses for additional water areas. However, it has also led to benefits such as increased opportunities for biodiversity and recreation and the re-creation of traditional floodplain landscapes.

10.2 The SPG, in Chapters 5,6,7,8 and 9 considers potential after uses for reclaimed sand and gravel sites, particularly agriculture, ecology, and recreation together with the impact on landscape character and the water environment. For each of these matters it establishes guiding principles for the future reclamation of sites. The implementation of these principles, however, is influenced by the lack of available suitable fill material and the need to safeguard aircraft from the potential threat of birdstrike, as detailed in Chapters 3 and 4. This chapter seeks a way forward to resolve these issues in order to establish a framework of principles to guide future decision making on the after uses of sites.

10.3 The most critical factor influencing the after use of worked out sand and gravel sites is the availability of suitable material to fill the mineral voids and sustain a dry after-use; the alternative being to reclaim sites for a water after use. Chapter 3 concluded that 'inert' waste is likely to be the only suitable fill material for restoring future worked out sand and gravel sites and that its future availability is very difficult to predict. From the limited information that is available, this Chapter also concluded that there is likely to be very little spare material for filling any new sand and gravel sites that may come on stream within the foreseeable future. **In the light of this conclusion the SPG adopts the approach of establishing priorities where any available fill material should be used for reclamation, thereby enabling the optimal use of this scarce material. The SPG also establishes locations where the preferred option is for a water after use.**

Establishing priorities for the use of fill material

Aircraft Safety

10.4 Consultation with Nottingham East Midlands Airport and smaller aerodrome operators has established that some areas within 13 km 'birdstrike' safeguarding zones are more critical than others in terms of the need to avoid hazardous bird activity. These 'critical areas' tend to be those lying closest to the airport and to aircraft flightpaths. In order to respond to the issue of potential birdstrike these areas have been identified as being a priority for the use of scarce fill material to avoid water-based after uses that might attract hazardous birds.

Landscape Character

10.5 The increasing reclamation of sites to water has considerably impacted on the character of the landscape in some areas of the Trent Valley. Ideally sand and gravel sites should be filled and returned to an agricultural use to reflect the essentially traditional agricultural character of the area. In practice, due to the lack of fill material, this is not achievable and some sites will have to be reclaimed for water uses. The Lowland Village Farmlands has been identified as the most appropriate landscape character type for reclaiming sites to 'dry after uses' (see paragraph 7.14) and so within this area it is a priority to fill sites. A further landscape consideration is the level of survival of areas of historic landscape within or in the vicinity of the site, which should be taken into account in deciding whether to fill sites or reclaim them for water after uses. Additionally, it will be a priority to restore or enhance key characteristics that have been identified as making an important contribution to the local distinctiveness, character and diversity of the landscape.

Agriculture

10.6 A key theme of the Government's rural policy is farm diversification and therefore alternative after-uses to agriculture, for worked out mineral sites, should be explored especially in view of the lack of available fill material. The 'best and most versatile' agricultural land is recognised as an important resource and therefore, in principle, sites containing such areas should be a priority for filling and for restoring topsoils and subsoils. However, even for these sites, the Government advises that the agricultural interests of each reclamation scheme will need to be weighed in the balance against other sustainability considerations such as the importance of biodiversity or landscape character priorities.

Ecology

10.7 The reclamation of mineral workings has been particularly identified as potentially making an important contribution to enhancing or creating 'priority habitats' or the habitats of 'priority species' as identified in the Lowland Derbyshire Local Biodiversity Action Plan. Habitats identified as being important to create, and requiring fill material in varying degrees, include; reedbeds and marshlands, floodplain/wet grasslands/species rich grassland and wet woodlands. It will be a

priority to fill sites where the opportunity has been identified to create such a habitat in accordance with the principles for ecological after uses established in Chapter 8.

Recreation

10.8 The reclamation of mineral workings can provide important opportunities for the creation of additional recreational facilities. Facilities have been identified which may require fill material in varying degrees, including off road driving, multi-recreational routes for walking, cycling and horse riding, and informal recreational facilities such as picnic sites and bird hides. At sites where these opportunities have been identified, in accordance with the general principles for recreational after uses established in Chapter 9, it will be a priority to provide sufficient fill material for these uses.

Preferred Locations for Water Reclamation

Aircraft Safety

10.9 The preferred location for sites to be reclaimed to water is outside of 'critical areas'. Unfortunately, the scarcity of suitable fill material means that even within 'critical areas' some sites will have to be reclaimed for water uses. In those instances the water areas will have to be carefully designed and managed so that hazardous bird activity is kept to a level that does not pose an unacceptable threat to aircraft safety.

Water Environment

10.10 Opportunities should be taken, where appropriate, to work mineral sites up to the river's existing edge with subsequent reclamation to wetlands. This may enable the restoration of natural river processes and provide additional water storage areas.

Landscape Character

10.11 The Riverside Meadows landscape type is more suitable for water after uses, as it is directly associated with the river and subject to seasonal flooding. Additional water after uses, therefore, are less likely to impact on the character of this landscape.

Ecology

10.12 Where reclamation schemes propose to create open water for nature conservation, they should preferably be located outside the 'critical areas' of any 13 km safeguarding birdstrike zone. Where open water restoration is proposed within a 'critical area' it will have to be carefully designed and managed to prevent the attraction of hazardous birds.

Recreation

10.13 Recreational schemes requiring open water such as jet skiing, boating, fishing should preferably be located outside the 'critical areas' of any 13 km safeguarding birdstrike zone around aerodromes. However, where open water is proposed for recreational use within a 'critical

area' it will need to be carefully designed and managed to prevent the attraction of hazardous birds.

Conclusions

10.14 This chapter establishes guiding principles for the future pattern of after uses on worked out sand and gravel sites within the study area. To enable the optimal use of scarce fill material the SPG establishes locations where it is a priority to fill sites and where the preference is for water after uses. To overcome the potential threat of birdstrike, the SPG establishes 'critical areas' of safety in which it is a priority that sites are filled.

10.15 The framework of guiding principles for considering the future after uses of worked out sand and gravel sites, as set out overleaf, comprises the priorities for infilling, the preferred locations for water after uses, together with the principles established in chapters 5,6,7,8 and 9 for water issues, agriculture, landscape character, ecology and recreation. In considering the reclamation of worked out sand and gravel sites the MPAs will have regard to these principles.

10.16 The relative weight of importance given to each of the guiding principles, and the way in which any conflicts of interests are resolved, will vary from site to site. How these principles apply to the SPG study sites is set out in Chapter 11, which describes the preferred pattern of after uses for each site. However, the reclamation of a site can only be fully assessed when a detailed reclamation scheme is submitted, when consideration will be given to the most up-to-date relevant information, on matters such as the availability of suitable fill material.

Guiding Principles for after uses

Priorities for infilling sites

It will be a priority to fill areas of worked out sand and gravel sites:

- that lie within 'critical areas' of any 13 km safeguarding birdstrike zone surrounding airports

- where there is a need to restore the best and most versatile agricultural land. In principle this is likely to be on sites lying outside of the floodplain where the incidence of flooding may preclude agricultural land from being classed as the best and most versatile

- within areas of Lowland Village Farmlands landscape character type rather than the Riverside Meadows because water is more naturally characteristic of the latter area

- where the site presents an important opportunity for the creation of primarily land-based habitats in accordance with the principles for such uses as established in Chapter 8

- where the site presents an important opportunity for the creation of a recreational dry after use in accordance with the principles for such uses as established in Chapter 9.

The preferred locations for areas of worked out sand and gravel to be reclaimed to water are:

- where the site lies outside the 'critical areas' of any 13 km safeguarding birdstrike zone surrounding airports (critical areas to be determined in consultation with the appropriate airport authorities)

- where the site presents an important opportunity for creating water storage areas

- within areas of the Riverside Meadows landscape character type which contains existing rivers, streams and other water features, and therefore is more suitable for water reclamation proposals than the Lowland Village Farmlands landscape character area

- where the site presents an important opportunity for the creation of water-based habitats in accordance with the principles for such uses as established in Chapter 8

- where the site presents an important opportunity for the creation of a water-based recreational after use in accordance with the principles for such uses as established in Chapter 9.

Where sites are reclaimed for water they should, as far as possible, be designed to reflect natural features to complement the existing landscape character. This may not be feasible where a site is required for a recreational purpose that demands a particular shape and size of water area.

Where sites are reclaimed for water within 'critical areas' of birdstrike safeguarding zones, they will need to be designed and managed to ensure that aircraft safety is not compromised by the presence of hazardous birds.

Principles for After-uses
(Established in Chapters 5, 6, 7, 8 and 9 – repeated below for convenience)

Water Environment Protection and Enhancement

1) The provision of wetlands to increase water storage and militate against flooding will be encouraged.

2) Reclamation schemes must not result in without adequate compensation, a reduction in the floodplain, any obstruction of flood flow routes, or overall contribute to an increase in flood risk, including an increase in flood risk elsewhere.

3) Reclamation schemes within the floodplain will need to take into account the potential impact on groundwater quality and groundwater resources (including the rights of existing licensed groundwater abstractions) and any consequent impacts on water courses.

Agricultural after uses

1) Where agricultural land is not classed as 'best and most versatile' (i.e. outside Grades 1,2 and 3a) alternative non-agricultural after uses consistent with other development plan policies should be explored.

2) Priority should be given to conserving the long-term potential of high quality agricultural land but in each case the agricultural interests will need to be balanced against other sustainability considerations.

3) Land restored to agriculture should be sustainable in terms of its value to the farm unit as a whole.

General Principles for landscape protection and enhancement

1) Reclamation schemes should aim to conserve, restore and enhance landscape features, as appropriate, that contribute to the

local distinctiveness, character and diversity of the landscape type within which the site is located.

In particular:

Key characteristics that have been identified as making an important contribution to the local distinctiveness, character and diversity of the landscape will need to be retained or restored as part of any reclamation scheme. Consideration will need to be given to the desirability of retaining features balanced against any resulting sterilisation of mineral resources.

Opportunities should be taken wherever possible to enhance the landscape by creating features that are characteristic of the area. This is particularly important in urban or industrialised areas where so many original landscape characteristics have been lost. Policy MP8 of the Minerals Local Plan requires planning conditions to be imposed, where appropriate, to retain, protect and enhance trees, woodlands, hedgerows and other landscape features such as lakes, ponds and streams.

2) Reclamation schemes should take into account the level of survival of historic landscapes within or in the vicinity of the site.

3) Proposals to restore sites to non-agricultural after uses will be considered more favourably on land of lower agricultural quality (i.e. not Grades 1,2 or 3a) which is more likely to be in the Riverside Meadows, having regard to the impact on the character of the landscape.

4) Proposals to restore sites to an agricultural after use will be considered more favourably in the Lowland Village Farmlands than the Riverside Meadows. Throughout the study area, however, where proposals are for an agricultural after use they should include features that are characteristic of the landscape type for example:

- ensure appropriate size and shape of fields
- enclose fields by planting hedgerows
- ensure hedgerows are used as field boundaries
- ensure hedgerows are planted with appropriate hedgerow and tree species
- plant riparian trees to emphasise the line of rivers or streams
- ensure appropriate habitat creation.

5) Proposals to reclaim sites for water uses will be considered more favourably in the Riverside Meadows. Throughout the study area, however, where proposals include water areas they should be designed to be as natural as possible and reflect features characteristic of the landscape type, for example:

- scale, small to medium, in keeping with the scale of existing water areas - large areas of open water are not natural features of the study area
- shelving banksides
- irregular outlines
- marginal vegetation
- planting to restrict and filter views
- plant linear features to reflect linearity of the floodplain
- where appropriate create river channels and in-stream features
- ensure appropriate habitat creation.

6) Reclamation schemes for sites lying on the terrace gravels should seek to retain geological features where appropriate

7) The long-term contribution of sites to the landscape should, where possible, be protected by securing their long-term management.

Ecological after uses

1) The creation, enhancement and setting up of mechanisms for the management of new and existing habitats and landscape features will be encouraged even where nature conservation is not the primary end use of a site. Such sites need to be designed and managed carefully to avoid conflict with other land uses.

2) Reclamation schemes will be encouraged to work towards habitat and species action plan targets in the Lowland Derbyshire Biodiversity Action Plan. Habitats that will be particularly encouraged include enhanced river channels with a variety of in-channel features, open water (designed to maximise its value for wildlife); reedbeds and marshlands; grazing meadow, wet grasslands and species rich grassland; and wet woodland.

3) Reclamation schemes for nature conservation after uses should be designed to aid the connectivity, and prevent the isolation, of key biodiversity sites. A particular aim is to enable species using the river and riverbanks to have access to newly created habitats on site.

4) The setting up of mechanisms for the long-term sustainable management of habitats is an important consideration. Where appropriate the MPA will seek legal agreements to achieve this.

Recreational after uses

1) The provision of recreational after uses as part of reclamation schemes will be encouraged where they accord with the following principles:

- they should be capable of being served by an appropriate range of transport modes, be accessible to centres of population and provide opportunities for greater participation by all sections of the population
- the volume of traffic likely to be generated should be in keeping with the capacity and character of the local transport network, and there should be an appropriate level of parking provision.
- they should have an acceptable impact on local communities or other neighbouring land uses; this requirement should be taken into account in both the location of an after-use and in its detailed design and management
- they should have an acceptable impact on the environment generally and on interests of acknowledged environmental importance in particular (including their impact on surface or ground water, water conservation and flood protection interests).

2) On sites that lie within the area of the East Derbyshire Woodland Project, opportunities should be taken to develop recreational after-uses which reflect the project's aim of creating managed public access to the area and which facilitate, or link with, woodland trails and other facilities.

3) On sites that lie within the Green Belt, after use development should not impinge on the openness of the Green Belt nor conflict with the purposes of including land within it. Any new buildings should be small in scale and essential for the above uses.

4) Recreational after-uses should be developed to provide for appropriate combinations of after-uses, in particular fishing; cycling and horse riding; facilities associated with boating or canoeing (if adjacent to existing waterways); informal recreation; and off-road driving or jet-skiing according to local demand.

5) Where opportunities allow, sites should be developed to provide for a range of water-based after uses including those associated with the development and restoration of waterways, having regard to water supply, drainage functions and conservation interests.

6) On any site, or part site, where public access is to be allowed, the development should provide for:

- multi-user recreational routes (walking/cycle routes, bridleways) which, wherever possible, link to existing or proposed off-road routes or quiet roads, especially where these would create circular routes or links to longer distance routes to settlements, or create links to towpaths, disused railway lines or other linear features

- informal recreational facilities, or areas, that are compatible with, and complementary to, other uses on the site and nearby.

7) Where recreational activities are proposed to be a major component of site after use, flexibility will be important so different uses can be accommodated as demand varies over time. Where sites are to be in multiple recreational use, appropriate management arrangements will be sought to ensure that uses remain mutually compatible.

Chapter 11

Site Specific Guidance

Background

11.1 This Chapter sets out the preferred pattern of after uses in planning terms for each of the study sites. The study sites are identified in Chapter 2, however for convenience the sites are listed below.

The Study Sites

Minerals Local Plan Allocations

- Attenborough (Long Eaton) Pit (Sites A and B)
- Elvaston
- Chapel Farm, Shardlow (extension to Hemington Quarry, in Leicestershire);
- Egginton Pit (Sites A and B)

Sites with existing planning permission where detailed reclamation schemes have yet to be approved

- Potlocks Farm
- High Bridge Lane
- Egginton Pit
- Chaddesden Pit

The relationship between the SPG and sites allocated in the adopted Minerals Local Plan

11.2 As set out at paragraph 1.9 of the SPG, the Minerals Local Plan through Policy MP21 makes provision for sand and gravel working by allocating specific preferred areas where there is a strong presumption in favour of extraction. Paragraph 9.45 of the adopted MLP states that 'The boundaries of the allocations have been drawn along physical features wherever possible. It is important to note that the identification of an area as an allocation does not imply that the whole of this area is considered to be suitable to be worked. The precise boundaries of the working areas and features to be retained such as buffer zones, wildlife sites and areas for additional landscaping and screening etc. and other detailed matters, will be determined at the planning application stage.' It goes on to say that 'The MPA will require the submission of satisfactory working and reclamation schemes which seek to ameliorate the impact of mineral working on the environment and ensure reclamation to an acceptable after use; in particular, proposals will need to address the principal planning requirements identified in Appendix A.'

11.3 Appendix A includes requirements about the types of reclamation proposals that would be appropriate for each of the allocated sites. The preparation of the SPG has enabled the Councils to examine the factors involved in the reclaiming worked out sand and gravel sites in greater detail and to take on board more recent issues such as birdstrike. These matters are reflected in the guiding principles for after uses set out in Chapter 10 of the SPG which have been used to determine preferred after uses for the study sites (including the allocations). This site-specific guidance is intended to supplement the requirements set out in the adopted Plan at Appendix A. How far the preferred after uses can be achieved can only be fully considered at the detailed planning application stage.

The relationship between the SPG and sites that already have planning permission

11.4 For those study sites that have planning permission but where there is no detailed reclamation scheme, the preparation of the SPG provides an opportunity to consider appropriate after uses for the sites, in the light of more up to date information affecting the reclamation of sand and gravel workings as set out above. How far the preferred after uses can be achieved can only be fully considered when a detailed reclamation scheme is submitted.

General considerations

11.5 Chapter 10 established that key considerations in reclaiming sites were the lack of available fill material and the need to protect aircraft from the threat of birdstrike. In view of the likely lack of availability of suitable fill material and the consequent necessity to reclaim some of the sites for water after uses, the MPAs have put forward an estimate of the percentage of water area that may be acceptable on each site. These estimates are based on a balance of considerations which include landscape, biodiversity and aircraft safety; they have been produced in consultation with the airport operators, although agreement has not been reached on all sites. The percentages are intended to provide developers with a rough estimate of water to dry after uses that any reclamation scheme should be aiming for on each site. They are not intended to be strict requirements for each site.

Attenborough (Long Eaton) Sand and Gravel Pit

Introduction

11.5 The Minerals Local Plan allocates two parcels of land next to the permitted areas at Attenborough (Long Eaton) Sand and Gravel Pit as potential extensions to this pit as shown on Map 7a.

- Area A (the Rifle Range), measures 37 hectares and lies to the west of the permitted areas

- Area B (Thrumpton's Land), measures 12 hectares and lies between the end of Pasture Lane and the River Trent.

Existing permitted area

11.6 Pasture Lane, which runs due south of Long Eaton towards the River Trent, divides the currently permitted site into two areas. To the east of Pasture Lane the sand and gravel has been extracted and the site reclaimed for agriculture, water-skiing, sailing and wind-surfing. West of Pasture Lane extraction was completed in 2004. The land in the northern part of the site was reclaimed for agriculture and as a sailing lake whilst the land in the southern part was reclaimed as a water-based nature reserve. The sand and gravel won from this area was transported by barge through lagoons formed by previous workings, which now form the Attenborough SSSI, to the processing plant in Nottinghamshire.

Minerals Local Plan

11.7 The Minerals Local Plan states that the reclamation scheme for Areas A and B will need to include proposals:

- "for water recreation in association with the water recreation facility that has been developed east of Pasture Lane, and

- for nature conservation in association with Cranfleet Ponds. Of particular value would be the creation of small ponds providing opportunities for the spread of plant and invertebrate life that are very rich in this area."

The Plan also states that, "if required, the Trent Rifle Range will need to be reinstated."

Key Considerations

11.8 Both areas, which are in the River Trent floodplain, are currently in agricultural use. The rifle range is in the centre of Area A but the land it occupies is farmed. Area B is a large arable field. MAFF[27] have indicated that the floodplain location of Area A and resultant flood risk precludes the agricultural land from being classed as higher than grade 3b (i.e. not the best and most versatile). A recent assessment of and quality in Area B, which is also in the floodplain, indicates that this is in the best and most versatile categories. The Department of Environment, Food and Rural Affairs (DEFRA) has not objected to its loss to mineral working because the relatively small area is not regarded as being significant. The sites are located in an area, defined as having Riverside Meadows landscape type characteristics, in which it is not a priority to fill sites. However, in the western part of the Area A, there is a significant area of unspoilt, traditional small-scale pastureland

[27] Agricultural Land Classification and Statement of Soil Physical Characteristics – Derbyshire Minerals Local Plan – MAFF 1995 (now DEFRA)

with intact hedgerows. Any scheme of working should seek to retain this character possibly by leaving some areas undisturbed or by small cell extraction and filling. The existing landscape of Area B is very much affected by nearby gravel workings.

11.9 In terms of biodiversity, both areas have little of existing value. However the potential for creating 'priority habitats' has been identified in association with adjoining wildlife sites namely, 'Trent North Bank', the recently reclaimed water based nature conservation area in the adjoining permitted area and the River Trent which forms an important wildlife corridor to link any newly created biodiversity sites. In terms of recreational potential the sites lie adjacent to water areas reclaimed for sailing, windsurfing and water-skiing. Due to the proximity to the urban area of Long Eaton this location is considered favourable for additional water recreation areas. Area A also contains the Trent Rifle Range which will need to be infilled and reinstated if required, a matter that will need to be resolved at the planning application stage. There is no public access to Area A, but the Cranfleet Canal, on its southern boundary, has a public towpath. A short stretch of footpath links the towpath with Trent Lane, the single-track road that defines the site's western boundary. Two footpaths cross Area B from the end of Pasture Lane to join up with a footpath that follows the northern bank of the River Trent.

11.10 Areas A and B lie some 7.5 kilometres to the north east of Nottingham East Midlands Airport and therefore well inside the 13 km 'birdstrike' zone surrounding the airport. However the sites are also located within close proximity to the Attenborough Nature Reserve and SSSI (Site of Special Scientific Interest) where there is already a large presence of birds. In view of this, the airport authorities have advised that they do not regard these areas as critical to be filled. They have agreed, in principle, to the reclamation of Area B for an angling lake with an appropriate bird management agreement in place. Such a plan will need to take into account the nearby presence of the Attenborough Nature Reserve and SSSI. For Area A they have agreed, in principle, to the reclamation of the majority (approximately 80%) of the worked area to water provided that the site is designed and managed to ensure that hazardous bird activity is kept to a level that does not pose an unacceptable threat to aircraft safety. The airport authorities have advised that any new water areas should be created as extensions to existing water areas, which would potentially avoid the need for birds to fly to them.

11.11 A key factor influencing appropriate after uses for these areas is that of road access. Minerals have been transported by barge to the processing plant at Attenborough because the roads through Long Eaton leading to the site are not considered suitable for large numbers of Heavy Goods Vehicles (HGVs). Importing infill material would involve a large number of HGV movements over a long period of time which would have an unacceptable impact on Long Eaton.

11.12 A degree of restoration could be achieved without importing waste materials by using quarry wastes for infilling voids. It may, however, be necessary to consider not working the allocated areas in their entirety, i.e. to leave some land undisturbed to ensure that, in the restoration of the site, the character of the area is maintained. Consideration may also need to be given to working some areas in a series of 'small cells' for the same reason.

11.13 The preferred after uses in principle for the areas are set out below. How far they can be achieved will depend upon a number of factors which can only be fully assessed in the preparation of a planning application(s) when consideration will need to be given to such detail as the precise area from which minerals could be extracted; the method of extraction; the availability of overburden for infilling the voids; the detailed requirements of the airport authorities and relevant development plan policies.

Preferred after uses

11.14 The preferred after uses for Areas A and B, should planning permission be granted for mineral extraction, are as follows:

1) Restore the farmland that characterises the western part of Area A, and reinstate the traditional field pattern;

2) Reinstate the rifle range, if required;

3) Enhance the wildlife corridor along the River Trent;

4) Develop small ponds and areas of reed bed, wet grassland and wet woodland habitats;

5) Add to/extend existing water-based recreation;

6) Reinstate existing public rights of way either on existing routes, or on appropriate new routes;

7) Develop additional recreational route(s) for walkers, horse-riders and cyclists;

8) Provide for angling.

Elvaston Quarry Northern Extension

Introduction

11.15 The Minerals Local Plan allocates some 75 hectares of land as an extension to Elvaston Quarry, as shown on Map 7b. The allocated area lies to the north of the existing quarry next to Bellington Hill, between the village of Ambaston in the east and Elvaston Castle Country Park in the west. The allocation is divided into two blocks of land by Elvaston Avenue, a double line of mature trees extending eastwards from the Castle grounds and forming part of its setting. These blocks are linked by a narrow strip of land at the end of The Avenue, which has been included in the allocation as a route for a field conveyor to transport the "as-dug" mineral to the existing processing plant to the south at Bellington Hill.

Existing permitted area

11.16 The last part of this quarry to be worked was to the south of the current allocation at Bellington Hill, where extraction was completed in 1998. Most of Bellington Hill is being restored for agriculture following infilling with quarry and imported wastes and it should be completed by 2007.

Minerals Local Plan

11.17 The Minerals Local Plan states that:

- "The reclamation scheme will need to make provision for the reinstatement of high grade farmland lying outside of the floodplain using fill material generated from within the proposed site. Provision will also need to be made for the enhancement of the 'Avenue'. On other parts of the site, the scheme will need to include proposals for water based after-uses. In keeping with the character of the 'Park' quiet water based recreational activities or nature conservation use will be appropriate. It will be important to ensure that the scheme takes the opportunity to establish linkages with the Country Park/Riverlife Way routes, by developing appropriate extensions to these networks."

Key Considerations

11.18 The allocated area is mainly farmland, used for arable cropping, or as permanent pasture. It lies mostly within the floodplain of the River Derwent, where advice from MAFF[28] indicates that flood risk precludes the agricultural land from being classed as the best and most versatile, apart from approximately 7.5 ha on slightly higher ground to the west which in principle should be restored. The landscape character type of the area is Riverside Meadows. The 'Avenue' is an important historic

[28] Agricultural Land Classification and Statement of Soil Physical Characteristics – Derbyshire Minerals Local Plan – MAFF 1995 (now DEFRA)

landscape feature, which is subject to a Tree Preservation Order and, together with the Castle, Gardens and Park, is listed on English Heritage's Register of Historic Parks and Gardens. The boundaries of the allocated area have been drawn back from The Avenue to protect the trees and to some extent their setting. To enhance their setting further and to reflect the historical setting of the Castle, Gardens and Park an agricultural 'estate' landscape should be recreated on site.

11.19 Ambaston Brook, which flows from a lake in the Country Park to the River Trent beyond Ambaston, crosses the site and although there are no designated wildlife sites within the allocation, the Brook and associated vegetation are ecologically valuable and need to be maintained and managed to maintain habitats within the Country Park. The River Derwent is an important wildlife corridor and opportunities should be taken to enhance the biodiversity interest of the site. Consideration should be given to allowing mineral extraction in the 30m stand off strip, normally required by the EA, to allow restoration of the River Derwent. The river is already used for fishing and the creation of a fishing lake on site would further enhance this recreational facility. The only public access to the site is on the public footpath from the B5010 (Borrowash – Elvaston Road) along the bank of the River Derwent, then through the northeastern corner of the site to Ambaston. Given the location of the site adjacent to the Country Park opportunity should be taken to develop public access routes to the Park and to link with other recreational routes.

11.20 The airport authorities regard this as a critical site to be filled. The allocated area is within the Nottingham East Midlands airport birdstrike safeguarding zone lying some 7 kilometres to the north east of the airport and under a flightpath. The preferred after uses for the site put forward by the MPAs would result in approximately 60% of the site being restored for water uses. The MPAs are proposing that any nature conservation lakes would be deep water with narrow margins of limited ornithological value but designed to support other priority species and that together with any water recreational after uses would be subject to a bird management plan.

11.21 A particular constraint impacting on the reclamation of this site is not only the general problem of obtaining acceptable infilling materials in sufficient quantity, but also obtaining an acceptable access to the site for vehicles to import wastes that would not impact unacceptably on the local communities. If planning permission is granted, access would need to be provided for the heavy plant required to strip and store soils and to replace soils at the reclamation stage, but this would be for temporary periods during the site's life. For the length of time required to infill the site, a more permanent access would be needed. The two main possibilities would be access from the Bellington Hill site, and/or use of the B5010. To access the allocation through Bellington Hill, HGVs would need to cross Ambaston Lane. Any proposals to use this route would, therefore, need to include an assessment of the impact of

these movements on that road. It is unlikely that use of the B5010 would be acceptable because of the impact that HGVs would have on local communities and Country Park.

11.22 Whilst the preferred after uses for this site are set out below there are a number of issues that need to be resolved including the availability of overburden for infilling the voids, access arrangements for infill material, and the airport authorities' requirements. Such matters will need to be addressed in considering any planning application for working the site.

Preferred after uses

11.23 The preferred after-uses for this area, should planning permission be granted for mineral extraction, are as follows:

1) Restore existing area of best and most versatile agricultural land;

2) Restore areas to recreate an agricultural 'estate' landscape to reflect the historical setting of the Castle, Gardens and Park;

3) Develop water-based nature conservation area(s) to include island habitats for otters, reedbeds and wet woodland habitat;

4) Create lake for fishing;

5) Develop public access links to the Country Park and nearby recreational routes such as, the National Cycle Network, the Midshires Way and Riverlife Way taking account of need to protect nature conservation area(s) from disturbance.

Chapel Farm (Hemington Pit)

Introduction

11.24 The Minerals Local Plan allocates 35 ha of land at Chapel Farm, to the east of Shardlow village, as a potential extension to Hemington Quarry, as shown on Map 7c.

Existing permitted area

11.25 The existing permitted area is located on the opposite bank of the River Trent in Leicestershire. Extraction from the land with planning permission at Hemington Quarry has been completed and the processing plant removed. The eastern part of the site closest to the M1 has been reclaimed for water uses with approximately 3 – 4 lakes for angling. The remaining western part of the site is currently being restored to agriculture by infilling, and should be completed by 2006.

Minerals Local Plan

11.26 The Minerals Local Plan states that:

- "the reclamation scheme will need to include proposals for the reinstatement of high-grade agricultural land and for water based after- uses. In keeping with the existing character of the area nature conservation use may be appropriate towards the eastern part of the site. For the remainder 'quiet' recreation uses will be appropriate in keeping with the character of the nearby conservation areas and existing recreational uses;

- features of ecological interest will need to be adequately protected and a wildlife corridor should be retained alongside the bank of the River Trent; and that

- an archaeological evaluation of the site will need to be carried out in view of the likely presence of significant archaeological remains, and provision will need to be made for the appropriate recording or retention of archaeological features in situ if warranted."

Key Considerations

11.27 The Chapel Farm allocation, which is in the River Trent floodplain, comprises improved and semi-improved grassland that is mainly used for grazing. Some 7.5 hectares on slightly raised ground above the floodplain, lying between the canal and Cow Way Drain, has been assessed as best and most versatile agricultural land (Grade 3a); its landscape character is Lowland Village Farmland. This area also possibly contains important archaeological remains that may need appropriate protection from mineral working which could possibly take the form of an 'Archaeological Conservation Zone' in which no disturbance would be allowed to take place. On the remainder of the site the character of the landscape is Riverside Meadows with significant areas of unspoilt, traditional, small-scale pasture with intact hedgerows. The dominant landscape feature is the visually prominent line of mature oak, ash and crack willow beside the Cow Way Drain, which swings in a loop across the site from west to east. In view of the significance of the landscape character consideration should be given to the retention of landscape features such as significant trees and hedgerows wherever possible.

11.28 In terms of biodiversity Cow Way Drain is also of ecological value because of the trees, the marginal aquatics, and the fact that, to date, disturbance of it has been limited. Part of the Derwent Mouth Lock wildlife site to the north-east is within the allocated area, and another designated wildlife site, Porter's Bridge Pond, adjoins its southern boundary. At the junction of the Trent, Derwent and next to the Trent and Mersey Canal, the allocated land forms part of an important wildlife corridor. The biodiversity interest of the area could be enhanced further. However, in view of the closeness to the airport (see paragraph 11.30), only small water bodies would be acceptable and a bird hazard management plan would more than likely be required.

11.29 The area is generally important for recreation, particularly associated with the Trent and Mersey Canal. There are moorings on the canal and Shardlow marina, which caters for canal boats, is about 100 metres southwest of it. The right of way along the canal towpath forms a stretch of The Midshires Way, a long distance footpath and bridleway through Middle England. A separate bridleway link is proposed alongside the towpath as part of the Midshires Way which the reclamation scheme should seek to accommodate.

11.30 The allocated area is well within the East Midlands airport birdstrike safeguarding zone lying only 4 kilometres to the north east of the airport. This allocation is the closest study site to the airport and therefore is the most critical in terms of avoiding the attraction of hazardous birds. In view of this the airport authorities ideally would like to see this site filled or if reclaimed to water to be so designed and managed so as not to attract hazardous birds.

11.31 A particular constraint impacting on the reclamation of this site is not only the general problem of obtaining acceptable infilling materials in sufficient quantity, but also obtaining an acceptable access to the site for importing waste materials. Road access could only be obtained through the village of Shardlow. However, taking account of the size of HGVs, number of movements that could be generated, and the likely duration of any infilling operation, it is unlikely that importing wastes by road would comply with planning policies in terms of the impact on the local community and other land uses, and in transport terms. Using the barges now proposed for importing wastes, as well as for transporting the minerals from the allocated area to the processing plant, might be an alternative. Quarry wastes from the site could be used to infill part of it; it may be desirable that the allocation area is not worked in its entirety i.e. some land remain undisturbed.

11.32 Whilst the Minerals Local Plan suggests that the after-uses for this allocated area should be water-based, as a result of the more recent assessment of the site for this study, it is considered that the majority of this site should preferably be restored to agriculture. To achieve this and to protect the archaeological, landscape and ecological interests in the part of the area to the north of Cow Way Drain should preferably remain unworked. For the land to the south of the Drain consideration should be given to the retention of landscape features such as significant trees and hedgerows wherever possible. Opportunities should also be taken to enhance the existing biodiversity interest of the site by the creation of small scale water bodies.

Preferred after uses

11.33 The preferred after uses for this area, should planning permission be granted for mineral extraction, are as follows:

1) To protect the archaeological, landscape character and ecological interests on site; the area north including Cow Way Drain should remain unworked;

2) Limit the impact of extraction on the landscape character of the area south of Cow Way Drain by retaining significant trees and hedgerows wherever possible;

3) Infill voids and restore the land as wet grassland;

4) Create small water bodies for biodiversity interest in particular to provide habitats for priority species of otter, water vole amphibians and reptiles;

5) Develop nature conservation along river margin;

6) Any recreational development should be low key and zoned away from the confluence of the Rivers Derwent and Trent;

7) Develop possible extension to Midshires' Way along northern boundary.

Egginton Pit Extensions

Introduction

11.34 The Minerals Local Plan allocates two areas, Sites A and B, as potential extensions to Egginton Pit, as shown on Map 7d.

- Area A measuring 36.2 hectares lies to the south of the existing permitted area.

- Area B measuring 4 hectares lies to the south east of the existing permitted area towards Egginton village.

Existing permitted area

11.35 The existing permitted site is dormant' no working having taken place for a considerable number of years. Before any extraction can recommence, the operators will need to update the existing planning conditions, including those relating to reclamation, imposed many years ago, to bring them up to modern standards. The updated conditions will require the approval of the MPA. This area has therefore been included as a study site (see paragraphs 11.53 to 11.59).

Minerals Local Plan

11.36 The Minerals Local Plan states that:

- "The reclamation scheme will need to include proposals for a mixed agriculture/water after-use. Proposals for water based after uses will preferably include nature conservation or 'quiet' informal recreational activities."

Key Considerations

11.37 Both areas, which lie within the floodplain of the River Dove, are in agricultural use. Area A, which lies closest to the river, tends to be used for pasture. MAFF[29] have indicated that due to the risk of flooding agricultural land quality is grade 3b (i.e. not the best and most versatile). Area B which lies further away from the river is used as arable land. MAFF have indicated that although this site lies within the floodplain the incidence of flooding is not so great as to preclude the land from being classed as grade 3a (i.e. the best and most versatile). In principle therefore this site should be restored for agricultural use.

11.38 In terms of landscape, the proposed extension areas are typical Riverside Meadows comprising small fields divided by mature hedgerows with hedgerow trees. Area A is dissected by Hilton Brook, which flows south eastwards towards the village of Egginton then on to the River Dove. This part of the Dove Valley is of high biodiversity value, particularly alongside the River Dove and Hilton Brook. The opportunity should be taken to reinstate the Riverside Meadows landscape and create small-scale habitats particularly in association with Hilton Brook. Extraction at site A could be allowed within the 30m stand off strip, normally required by the EA, to allow the enhancement of the Hilton Brook.

11.39 The western part of Area A is particularly inaccessible to the public, which enhances its biodiversity value. A public bridleway passes along the southern boundary of Area B and crosses the southern part of Area A. The possibility of providing a link to the National Cycleway network that will cater for horse riding when fully developed should be explored, taking into account the need to protect the security interests of the adjacent airport. The site may also provide the opportunity for additional recreational facilities, which should be 'quiet' and 'informal' to complement the nature conservation interest.

11.40 Derby Airfield is located on land at that has been restored at Egginton Pit and therefore the impact of future after uses for this quarry on the airfield is an important consideration. The aerodrome operators envisage the business growing and are seeking to expand their site and would like to see this taken into account in any reclamation scheme. In view of the location of the aerodrome adjacent to Egginton Pit this site is particularly 'critical' to fill in terms of birdstrike. The aerodrome operators have advised that the existing water areas that have been created from past workings are fairly small and do not present a problem in terms of birdstike. Any new water areas however should be small scale and situated close to the River Dove away from approaches or take offs to the existing runways. The aerodrome

[29] Agricultural Land Classification and Statement of Soil Physical Characteristics – Derbyshire Minerals Local Plan – MAFF 1995 (now DEFRA)

operators have indicated that ideally the maximum of Site A that they would wish to see reclaimed to water is no more than 10%.

11.41 Whilst there may be the general problem of obtaining acceptable infilling materials in sufficient quantity, this site is ideally placed for receiving waste lying close to the A38 and the A50. Furthermore the route from these roads to the site does not pass through any local community.

Preferred After uses

11.42 The preferred after uses for Areas A and B, should planning permission be granted for mineral extraction are as follows:

1) Restore land to agriculture and conserve and enhance Riverside Meadows landscape;

2) Maintain and enhance biodiversity value with development of small-scale habitats especially close to Hilton Brook and in keeping with the Brook's character;

3) Develop bridleway to link with National Cycleway network that will also provide riding routes when fully developed;

4) Maintain and develop quiet informal recreational after uses to complement biodiversity interests.

Permissions where detailed reclamation schemes have yet to be approved.

Potlocks Farm

Introduction

11.43 The permitted site measures 34 hectares. It lies immediately to the east of the former Willington power station as shown on Map 7e.

Existing permitted area

11.44 Planning permission for sand and gravel extraction from this site was granted firstly in 1972, subject to conditions that included the requirement that the development must be begun by 1987. Permission to extend this period to 1997 and then to 2010 was subsequently granted. In support of its last application for a time extension, the applicant company stated that its aim was to concentrate production at the minimum number of sites consistent with meeting market demand. The company considered that reserves from the Potlocks site remained an important future source of aggregate material in the County and did not wish to undertake on-site preparatory work purely for the purpose of implementing the permission. The proposed extension of time (to 2010) would allow the company the opportunity to develop the site in logical sequence within its overall development programme. The current permission provides for this site to be restored for agriculture.

Key Considerations

11.45 This site is used for arable farming and lies within an area classed as the best and most versatile agricultural land.[30] Approximately 40% of the site lies within the floodplain, which may affect the quality of the agricultural land, a factor that will need to be considered when a detailed reclamation scheme is submitted. In principle however the site should be returned to an agricultural use as required by the existing planning permission. The site lies within an area displaying Lowland Village Farmland landscape character type which has been identified as priority for filling. The site contains important trees; 'the three sisters of Willington'[31], close to its southern boundary, should be safeguarded and incorporated in any reclamation scheme.

11.46 Although agriculture is the preferred after-use if the lack of available fill material makes such a scheme difficult to implement then this site may be suitable for some areas to be reclaimed to water. The site lies outside the Nottingham East Midlands Airport 'birdstrike' safeguarding zone and therefore the airport authorities would be unlikely to raise objection to its reclamation to a water use. Furthermore, the site lies adjacent to a proposed large-scale housing development (950 dwellings) identified in the South Derbyshire Local Plan[32]. If this proposal is implemented there may be an opportunity to provide for

[30] Agricultural Land Classification Maps
[31] Tree Preservation Orders 59 and 189
[32] Revised Deposit Edition January 2003

'low key' recreational use, such as fishing, as part of any reclamation scheme.

11.47 Whilst there may be the general problem of obtaining acceptable infilling materials in sufficient quantity, this site is ideally placed for receiving fill lying close to the A50 and the A38.

Preferred After uses

11.48 1) Restore the site to agriculture;

2) Protect the important trees on the site, incorporating these in any landscaping scheme and explore the possibility of providing amenity woodland;

3) Develop a network of links to the proposed new housing;

4) Explore the possibility of some water recreational areas if there is a lack of material available to fill the site.

High Bridge Lane

Introduction

11.49 This site, which measures some 18.5 hectares, is located within well-defined boundaries as shown on Map 7f. High Bridge Lane forms the boundary of the site in the east, an active railway line between Derby and Burton on Trent to the south; the River Dove in the west and the Trent and Mersey Canal to the north.

Existing Permitted Area

11.50 The site is crossed by two sewer pipes, which run from the Claymills sewage works near Burton to Etwall; and by a water main. The permission granted in the 1960s limits mineral extraction to the areas between these pipes. Updated planning conditions now apply to the site including a condition that the site is restored to agriculture unless otherwise approved by the MPA.

Key Considerations

11.51 The site is currently in agricultural use with some historical landscape features (ridge and furrow). When extraction at High Bridge Lane takes place, the major pipework criss-crossing the site will be protected by stand-offs, which will be left undisturbed. Following extraction, the integrity of these pipes is likely to be best ensured if the voids are infilled and the land restored for agriculture and the pattern of the existing landscape reinstated. With the areas from which the gravel can be extracted being relatively small in scale, large quantities of wastes will not be required to infill them. High Bridge Lane is not suitable for use by HGVs. Operators are therefore likely to use the new access road off Castleway Lane into the adjacent Willington Pit both for removing the minerals and for importing wastes. Use of this route, and the nearby A38, by HGVs would have limited impact on the

local environment. Whilst restoration for agriculture should be the main after-use, there may be some scope for creating a series of small ponds close to the River Dove to improve local biodiversity. Consideration should be given to allowing mineral extraction in the 30m stand off strip to allow restoration of the River Dove.

Preferred After uses

11.52
1) Conserve as much of the historical landscape features (ridge and furrow) as possible;

2) Infill and restore the land for agriculture;

3) Re-instate the existing enclosure pattern of the landscape;

4) Consider the opportunity for creating a series of small ponds near to the River Dove.

Egginton Pit

Introduction

11.53 The existing permitted area at Egginton Pit covers some 108 Ha of land between the railway line and Egginton village as shown on Map 7d.

Existing permitted area

11.54 The original planning permission granted in 1960 was for sand and gravel extraction from 64.5 hectares of land. The pit was extended in 1968 by the granting of a further planning permission. Sand and gravel has been extracted from around 52 hectares of the site, of which 18 hectares have been completely infilled and restored for agriculture, mainly with PFA; 9 hectares have been infilled but no soils have been replaced on this area. The remainder of the worked area has been left in water as a series of small ponds.

11.55 Most of the fully restored area was acquired by Airspeed Aviation Ltd and developed as Derby Airport. Trees and other vegetation have become established naturally on the infilled area. The ponds and land surrounding them have also revegetated. The ponds are now valuable wildlife sites and are included on the Derbyshire wildlife register. Some of the ponds are used for angling.

11.56 There has been no extraction at Egginton Pit for a considerable period of time. Under the terms of the Environment Act 1995, which introduced requirements for an initial review and updating of old mineral planning permissions, Egginton Pit is categorised as a “dormant” site. This means that before any extraction can recommence, the existing planning conditions will need to be reviewed and updated to meet modern standards. The new conditions will require approval from the MPA. Permission for the erection of a processing plant at the site was granted in 1992 and the period for its construction has been extended to April 2007.

Key Considerations

11.57 The land with planning permission at Egginton Pit from which sand and gravel has still to be extracted comprises fields in agricultural use to the west of the unworked area next to Area A which has been allocated for possible future extraction, and to the south-east of the worked area next to Area B. The key considerations in respect of the existing unworked land at Egginton Pit are, therefore, the same as those set out in paragraphs 11.37 to 11.41 above in relation to Areas A and B.

11.58 With regard to the worked but unrestored parts of Egginton Pit; Derby Airport operators envisage their business growing and are seeking to expand their site and would like to see this taken into account in any reclamation scheme. The unrestored land lying to the west of the airfield should be filled to enable a possible extension. On other areas of unrestored land, these should be infilled and the land restored to agriculture in the form of small, hedge-lined fields. However, trees are already becoming established naturally on the infilled lands and around the ponds and the scope for developing woodland should be considered. As for the ponds, they have become established angling pools and wildlife areas of some importance and these uses should be retained.

Preferred After uses

11.59
1) Restore land for agriculture and conserve and enhance the Riverside Meadows landscape;

2) Restore land to enable possible extension to Derby airfield;

3) Maintain and enhance biodiversity value with development of small-scale habitats especially close to Hilton Brook and in keeping with the Brook's character;

4) Develop bridleway to link with National Cycleway network that will also provide riding routes when fully developed;

5) Maintain and develop quiet informal recreational after uses such as fishing, which would complement any biodiversity interests; and

6) Restore the infilled land at the existing pit as woodland.

Chaddesden Quarry

Introduction

11.60 Chaddesden Quarry lies is located to the north of the River Derwent close to Derby City Centre as shown on Map7g.

Existing permitted area

11.61 It has been worked for sand and gravel with associated tipping of non hazardous waste, since 1982 under several planning permissions. Extraction was completed in the mid 1990s and since then restoration has been steadily progressing. This has been mainly through the tipping of spent railway ballast and other inert waste. A new planning application was submitted to the City Council to rationalise the previous permissions and revise the conditions it was to be restored under. This application contains revised restoration plans which propose that the site will be fully restored by 2008.

Key Considerations

11.62 The site is made up of two large areas of land. The eastern area, some 28 ha, is proposed in the City of Derby Local Plan (CDLP)[33] for business and industrial uses. The western area of the site, some 25.5 ha, lies within an area defined as a green wedge in the CDLP (Proposal E2) and is proposed for leisure and recreational uses of an open nature (Proposal L6(2)). Green wedges have two essential characteristics they have an open and undeveloped character and they penetrate the urban area from the open countryside. Green wedges are suitable for a range of activities but, by definition, land uses should predominantly protect the open and undeveloped character of the wedge. Built development should be small in scale and essential and ancillary to the operation of the main use. Any proposal should not lead to an excessive increase in numbers of people, traffic or noise. The designation does not preclude a proportion of the site from being reclaimed to water for appropriate recreational uses.

11.63 Part of Chaddesden Quarry is already recognised as a Candidate Wildlife Site by Derbyshire Wildlife Trust other areas may follow as surveys continue. One of the key considerations for the site is how the biodiversity features and habitats now present can be retained, enhanced and where possible reinstated, whilst still allowing for the proposed after uses. The site has developed very significant populations of key species and habitats in a river corridor which has now lost most of the other sites of this type. Further surveys may be needed before detailed restoration plans are agreed, to identify other localised key biodiversity features. The site should not be considered in isolation, but as part of a network of related sites in the River Derwent corridor. Additionally, consideration should be given to modifying the river, during site restoration, to further enhance the nature conservation value of the river corridor.

11.64 Even on the eastern part of the site proposed for business uses it would be appropriate to seek opportunities for the retention or creation of small scale ecological features alongside and without deterring from the business development. Such features could include hedges with

[33] City of Derby Local Plan Revised Deposit Autumn 2002

ditches; small scale reedbeds (or even SUDS[34] schemes); open water bodies with bare ground surroundings; or retention of bare gravel-topped areas adjacent to industrial units for Little Ringed Plover.

11.65 The site lies some 11 km to the north west of the Nottingham East Midlands airport, which is not particularly close however it does lie under a flightpath and therefore the airport authorities regard this as a critical area in terms of birdstrike and would prefer this site to be filled. The preferred after uses put forward by the MPA would result in the proportion of the site to be restored to water at between 0 and 25%. Any conflicts of interest with the requirements of Nottingham East Midlands airport will need to be resolved when considering detailed reclamation proposals.

11.66 The CDLP also proposes a cycleway-walkway running along the southern edge of the proposed recreation area and crossing through its centre to link to Chequers Road, which should be reflected in any reclamation scheme. The River Derwent and its banks are defined in the CDLP (Proposal Ex2) as being a SINC (Site of importance for nature conservation); the need to protect and enhance the river corridor should be taken into account in any reclamation scheme. Thus, part of the proposed recreational route could run within the Chaddesden Quarry site and not along the riverbank itself so as to protect the biodiversity of the riverbank.

Preferred After uses

11.67

1) Restoration to business and industrial for the eastern area of land seeking opportunities for the retention or creation of complementary small scale habitat features, where possible;

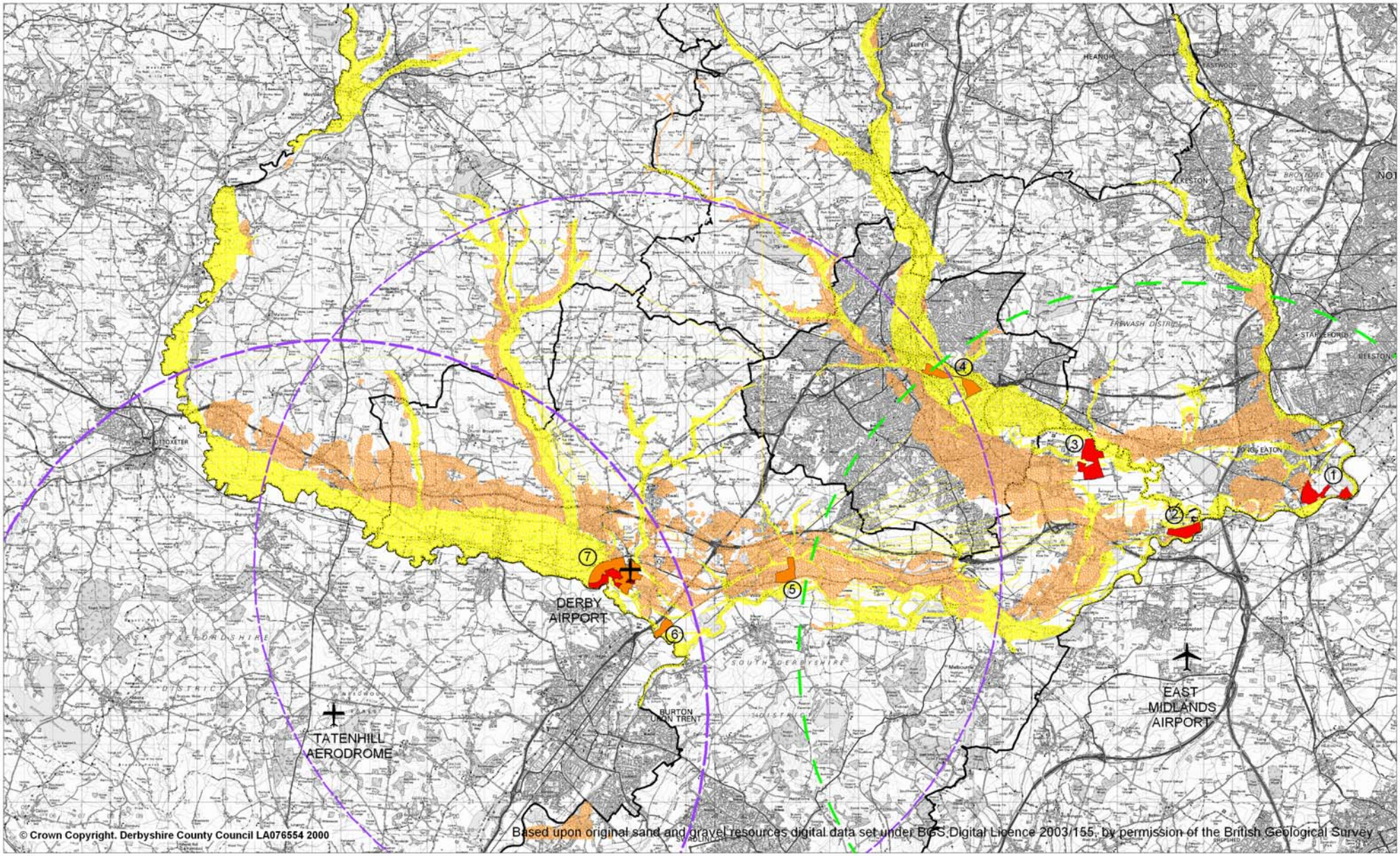
2) Restoration to open leisure and recreational uses for the western area of the land whilst maintaining and enhancing biodiversity value;

3) Water uses on the leisure and recreational area of the site would not in principle be ruled out at this stage, subject to consultation with the airport authorities, and the effect on the flood regime and biodiversity;

4) Develop recreational cycle routes, bridleways and footpaths to link with existing routes and improve access to the proposed leisure and recreational areas;

5) Respect the visual, recreational and nature conservation importance of the river corridor and neighbouring sites.

[34] Sustainable Urban Drainage Systems



KEY

- County Boundary
- District Boundary
- Minerals Local Plan Allocation
- Sites with Planning Permission
- Sand and Gravel Resource - Sub - Alluvial
- Sand and Gravel Resource - River Terrace Deposits
- 13km official 'Birdstrike' Safeguarding Zone - East Midlands Airport
- 13km non-official 'Birdstrike' Safeguarding Zone - Tatenhill Aerodrome
- Proposed 13km non-official 'Birdstrike' Safeguarding Zone - Derby Airport

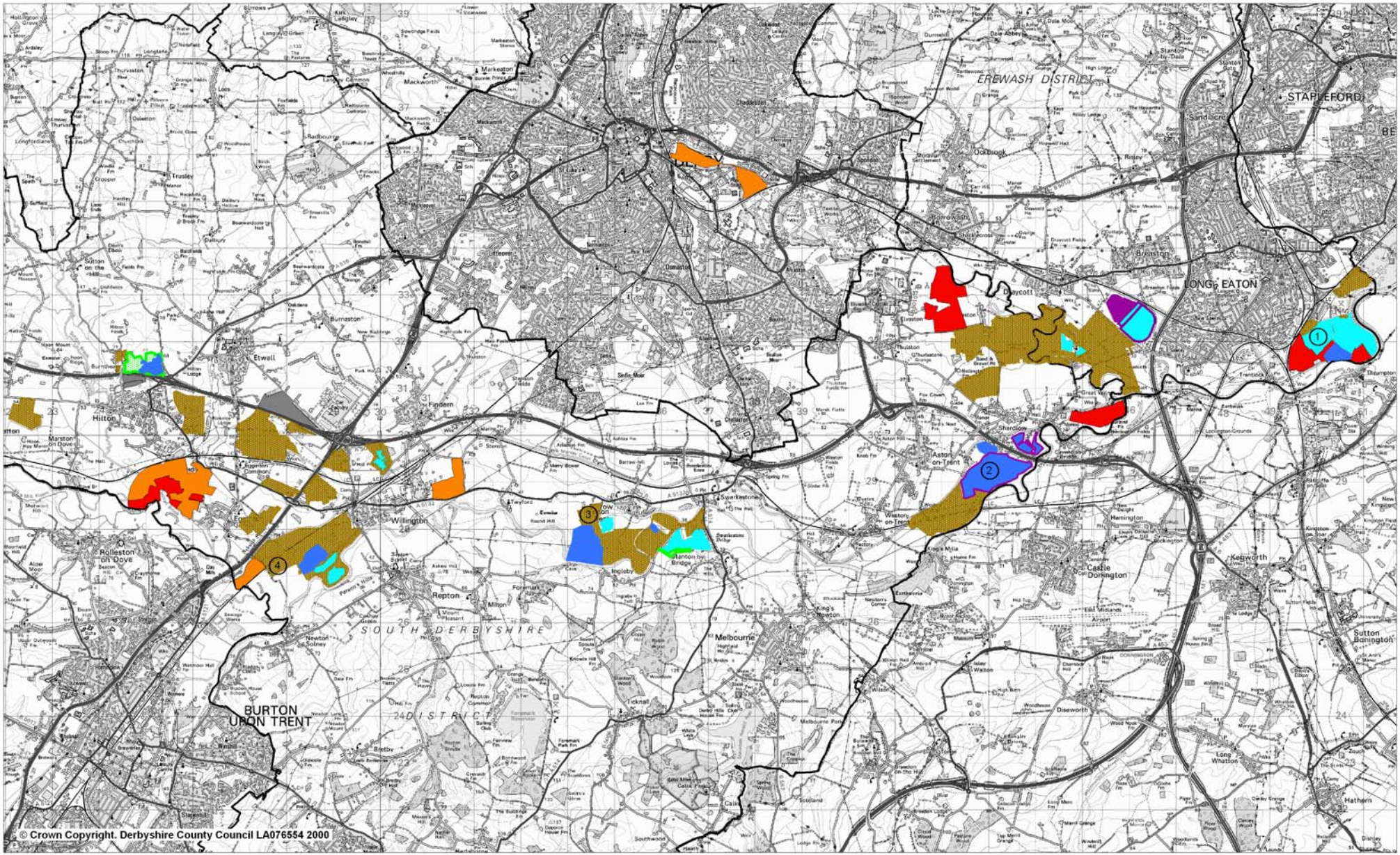
Study Sites
1. Attenborough
2. Chapel Farm
3. Elvaston
4. Chaddesden
5. Potlocks Farm
6. Highbridge Lane
7. Egginton

N W E S

Scale 1:130,000

MAP 1

Study Area and Study Sites
Airport 13km 'Birdstrike' Safeguarding Zones



KEY

- County Boundary
- District Boundary
- Minerals Local Plan Allocation
- Sites with Planning Permission

After uses

- Filled - Agriculture
- Filled - Nature Conservation
- Filled - Other Developments
- Water - Recreation
- Water - Nature Conservation
- Water - Reservoirs
- Water - Reservoirs with recreational use
- Water - Reservoirs with nature conservation use

Active quarries

1. Attenborough
2. Shardlow
3. Swarkestone
4. Willington

N W E S

Scale 1 : 80,000

MAP 2

Existing and Permitted After - Uses of Sand and Gravel Sites

Map 3 Predictive Agricultural Land Classification – Explanatory Note

Introduction

This map shows the best available estimate of agricultural land quality at the date of compilation (December 2003), expressed in terms of the proportion of land likely to classified as 'best and most versatile' ('BMV') i.e. Grades 1, 2, 3a in the Defra Agricultural Land Classification (revised 1988), when a local field survey is carried out. All users should ensure they have the latest version of the map.

Data sources include:

Soil information from the National Soil Map (1983) produced by the National Soil Resources Institute of Cranfield University. The National Soil Map is copyright Cranfield University.

Detailed Defra Agricultural Land Classification field survey results for local areas.

The Defra 1:250,000 scale Agricultural Land Classification maps of England.

Climatic Data derived from Met. Office Sources.

Extent of non agricultural land use derived from the Defra 1:250,000 scale Agricultural Land Classification maps of England.

THIS MAP IS DESIGNED FOR STRATEGIC PLANNING PURPOSES ONLY AND SHOULD NOT BE USED FOR SITE SPECIFIC ASSESSMENTS. THE DATA SHOULD NOT BE ENLARGED.

not normally suitable for use below scale 1:250 000 or for the definitive classification of any local area or site.

The methodology involves each soil association being systematically assessed on a regional basis in accordance with the current classification criteria (MAFF, 1988[4]) using a combination of ALC data derived from site surveys (post 1988), provisional ALC map data, climatic and site data and published National Soil Resources Institute (NSRI) information, to give an assessment for each of the likely proportion of 'best and most versatile' agricultural land to be encountered, according to the three categories already described.

In order to maintain consistency with the published series of 1:250,000 scale Provisional ALC maps land shown as Grades 1 and 2 are automatically placed in the high likelihood category. Land which cannot be 'best and most versatile' agricultural land due to overall climatic limitations is placed in the low likelihood category.

The resulting assessments are mapped using GIS techniques to produce predictive land quality assessments at 1:250,000 scale. The method is designed to allow improvements to the predictions as new data becomes available, for instance new digital datasets (e.g. geology or topography) or ALC site data. It should therefore be viewed as an evolving GIS based system rather than a single one-off map product. **The user should ensure that the most up to date version of the mapped data is used. For further information on this matter refer to the contact given overleaf.**

The data can be used as a companion to the published provisional ALC map series, as the latter will provide a guide to individual ALC grades within each category.

Limitations

The Strategic Map data has a number of limitations which make it best suited for strategic planning rather than detailed site assessment purposes. These are:

- The soil association data at 1:250,000 scale is a relatively crude indicator of agricultural land quality

- The combination of different data in the production of the Strategic Map, some with different resolutions, means that there may be some compromises with the presentation

- The nature of the base data (soil associations and published provisional ALC) means that there is a minimum map unit size of about 80ha.

The predictive assessment is not suitable for site specific appraisals. New field surveys may need to be commissioned.

[4] *Agricultural Land Classification of England and Wales* (MAFF, 1988)

AGRICULTURAL LAND CLASSIFICATION (ALC)
STRATEGIC MAP INFORMATION – Derbyshire County (Dec 2003)

Background

This data consists of Predictive ALC information which is described below:

Outside of the limited areas where detailed data is found, a prediction of the likely land quality is depicted. This is represented in terms of an assessment of the likely proportion of 'best and most versatile'[1] (BMV) land. The data is derived from ALC and soil association data digitised at 1:250,000 scale. It should not be enlarged beyond 1:250,000 scale.

Predictive data is a desk-based assessment of the likely occurrence of BMV land which could be encountered when field surveys are carried out.

The predictive method

The prediction uses the following three categories

- Areas where more than 60% of the land is likely to be 'best and most versatile' agricultural land.

(High likelihood of 'best and most versatile' agricultural land)

- Areas where 20-60% of the land is likely to be 'best and most versatile' agricultural land.

(Moderate likelihood of 'best and most versatile' agricultural land)

- Areas where less than 20% of the land is likely to be 'best and most versatile' agricultural land.

(Low likelihood of 'best and most versatile' agricultural land)

Agricultural Land Classification (ALC) Strategic Map information is based on predicting the likely proportion of 'best and most versatile' agricultural land (ALC Grades 1, 2 and 3a) which would be found if surveyed at the local level. This is important in a land use planning context as described in PPG7[2], particularly where large tracts of Grade 3 land are indicated on published Provisional ALC maps and the extent of 'best and most versatile' agricultural land is currently uncertain. The predictions use soil associations (which are the mapping unit[3] of the published 1:250 000 scale National Soil Map) as the main basis of the assessment. The map is intended for strategic planning purposes only and is

---

[1] BMV land comprises Grades 1, 2 and Subgrade 3a of Defra's ALC system (MAFF,1988). It is the land afforded protection under current planning guidance (PPG 7)

[2] Planning Policy Guidance Note 7 (PPG7), "*The Countryside- Environmental Quality and Economic and Social Development*"

[3] There are 296 soil associations in England and Wales. These are shown on a series of 6 regional soil maps produced in 1983 by the Soil Survey of England and Wales (now National Soils Resources Institute)

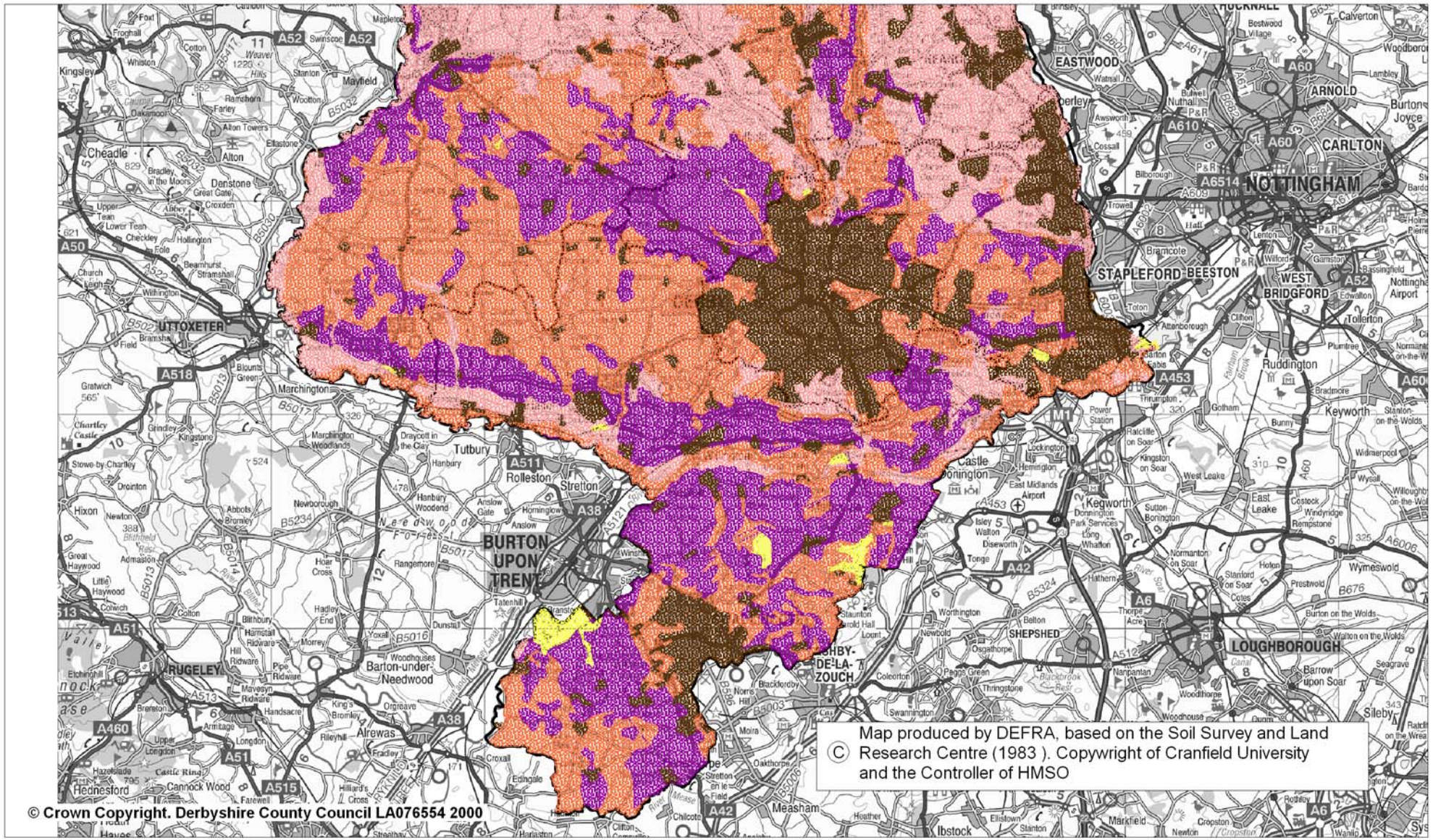
Uses

Where recent (post 1988) MAFF ALC field survey data is available, this is the most reliable source of information on land quality. Where this data is not available the predictive land quality information enables a general appreciation of relative land qualities (expressed in terms of the likelihood of 'BMV' land occurring) within the county. The data can be used as a companion to the provisional ALC maps, particularly as the latter will provide a guide to the disposition of individual ALC grades. The predictive information is a strategic planning tool which can be used as a 'first pass' screening tool in site selection. Site specific studies, including new ALC field surveys, will be needed for the more detailed site selection process.

Further Information

For further information or explanation please contact:
National Land Management Team, Rural Development Service
Defra, 100 Southgate Street, Bury St Edmunds, Suffolk. Tel 01284- 723136

Derby and Derbyshire Minerals Local Plan - Supplementary Planning Guidance on the After - Use of Sand and Gravel Sites in the Trent Valley



Title

County Boundary
District Boundary

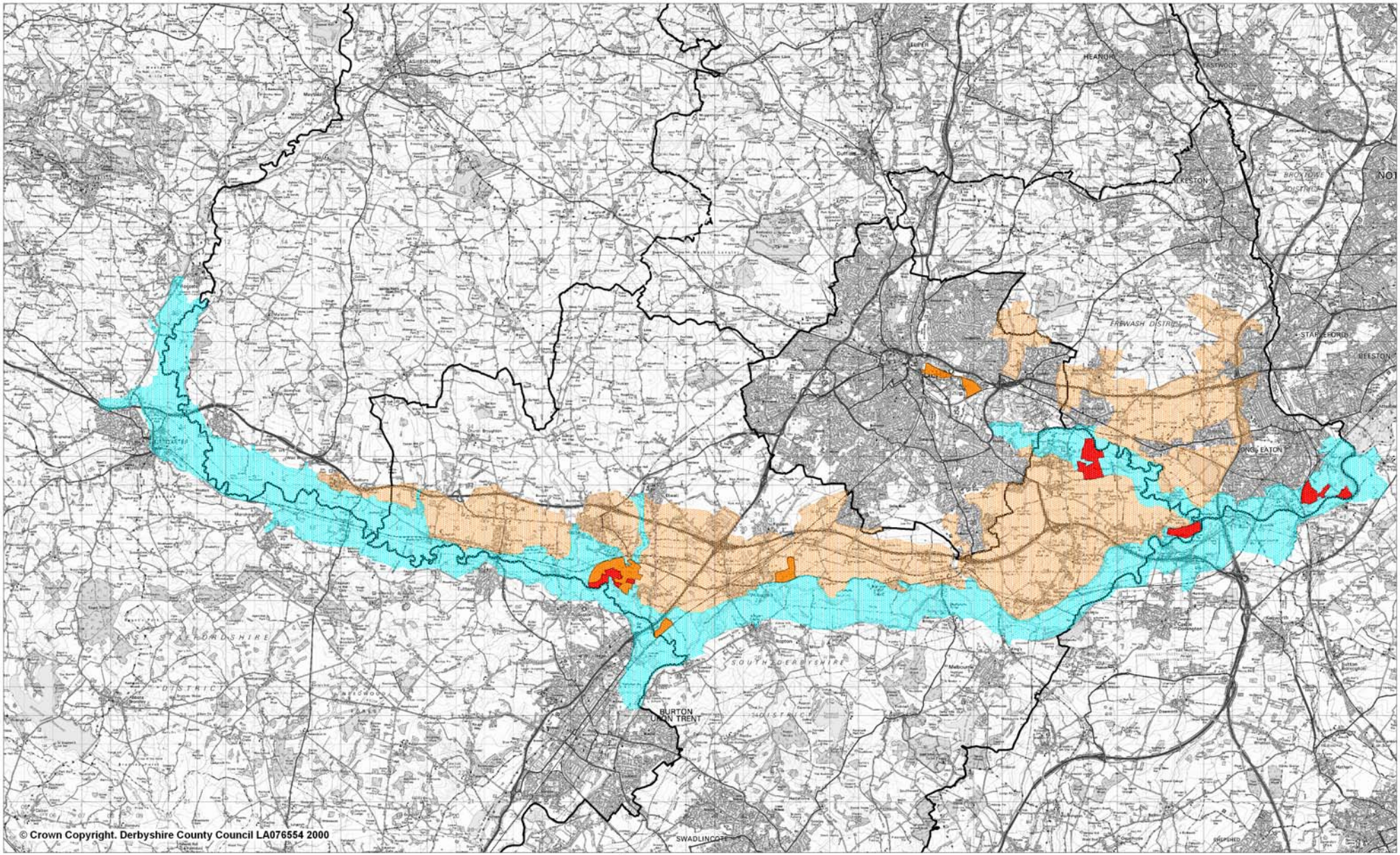
- High (areas where more than 60% of the land is likely to be 'best and most versatile')
- Moderate (areas where 20% to 60% of the land is likely to be 'best and most versatile')
- Low (areas where less than 20% of the land is likely to be 'best and most versatile')
- Other non agricultural land use (e.g. woodland)
- Urban and Industrial areas

N W E S

Scale 1 : 265,000

MAP 3

Predictive Agricultural Land Classification



KEY :

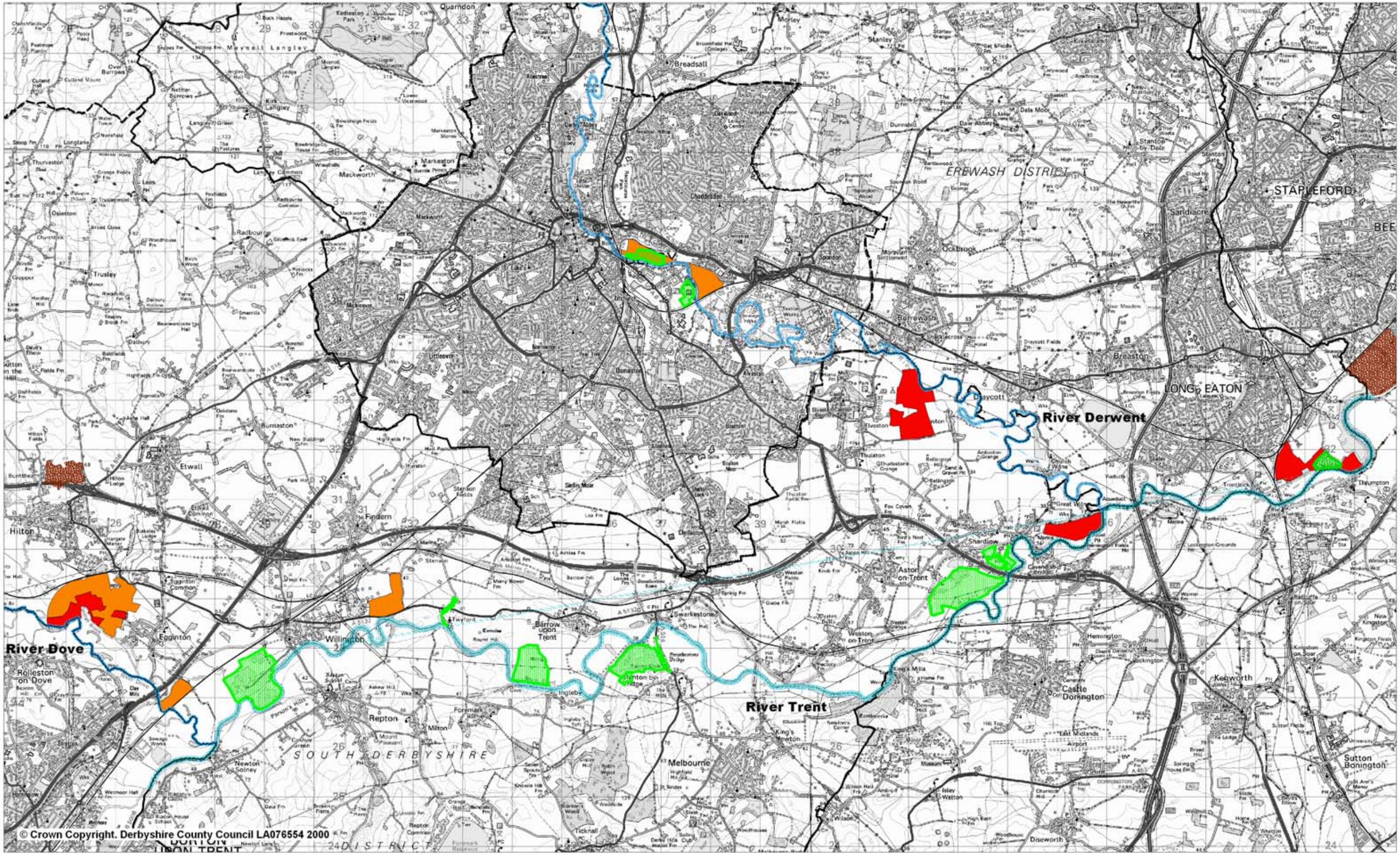
- County Boundary
- District Boundary
- Minerals Local Plan Allocation
- Sites with Planning Permission
- Riverside Meadows
- Lowland Village Farmlands

N
W E
S

Scale 1 : 130,000

MAP 4

Landscape Character Type



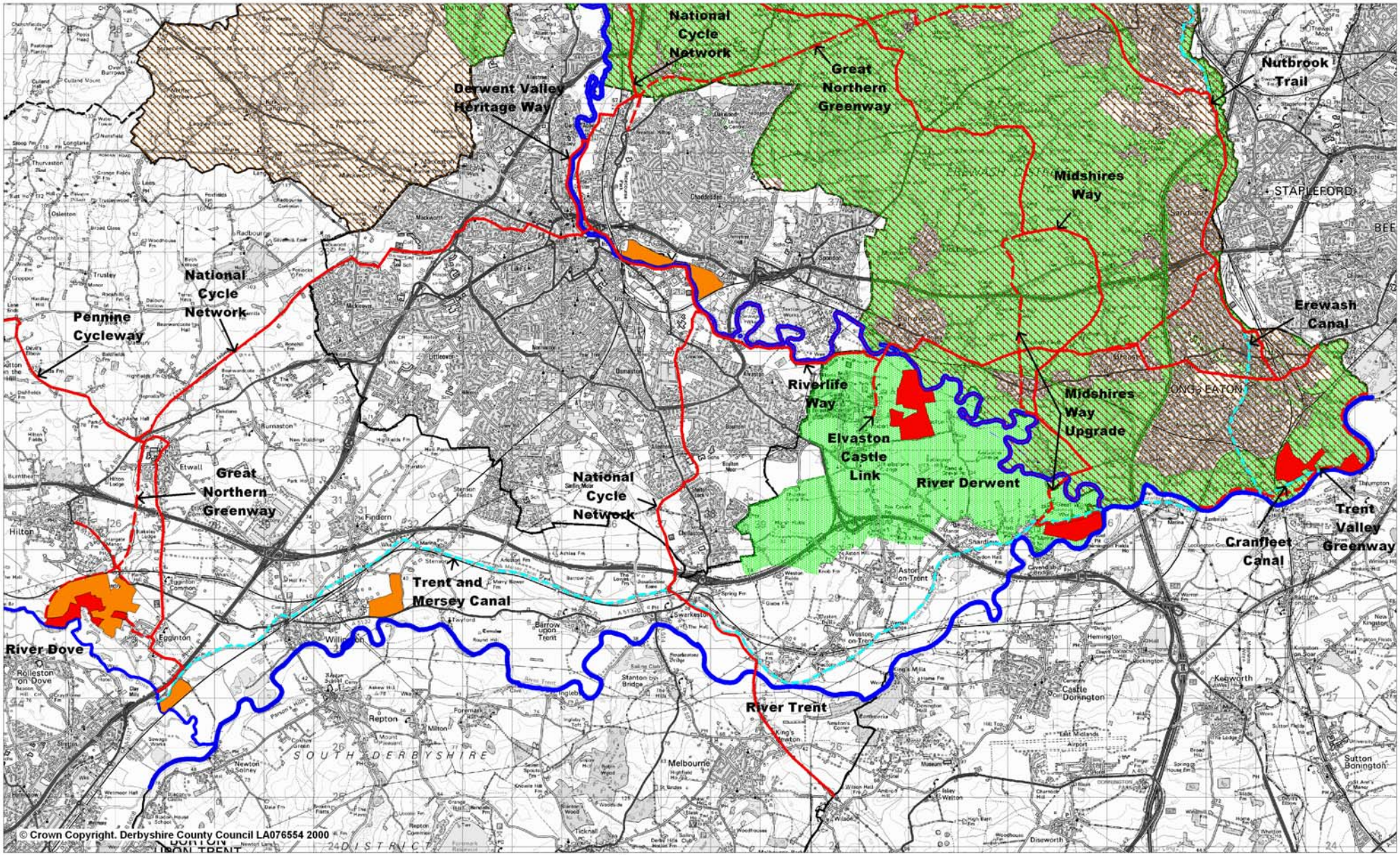
MAP 5

Key Biodiversity Sites

Scale 1 : 80,000

KEY

- County Boundary
- District Boundary
- Minerals Local Plan Allocation
- Sites with Planning Permission
- River Corridors
- Sites of National Importance (S.S.S.Is etc)
- Sites of Local Importance



KEY

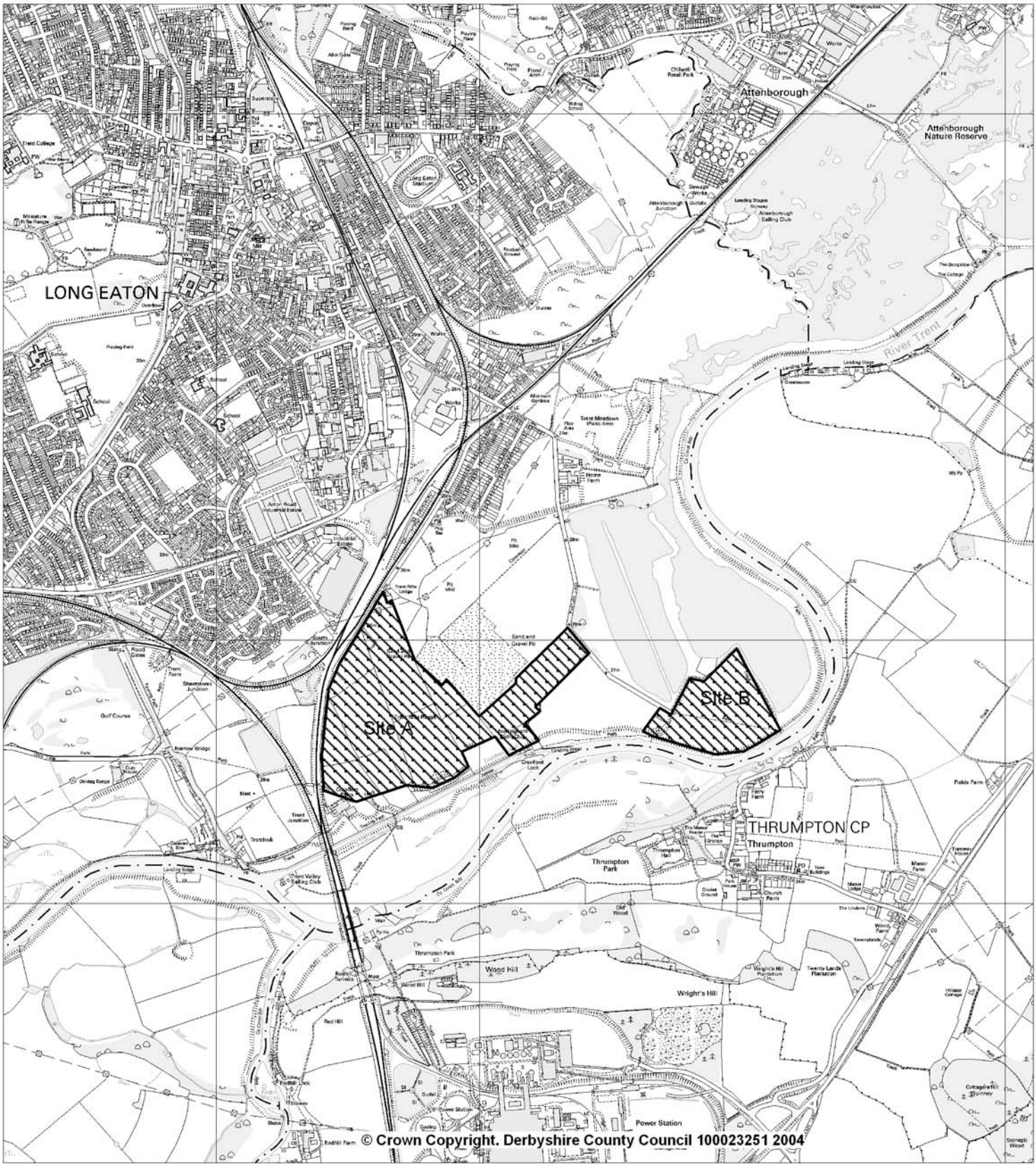
- County Boundary
- District Boundary
- Minerals Local Plan Allocation
- Sites with Planning Permission
- River Corridors
- Canals
- Existing recreational routes
- Proposed recreational routes
- South East Derbyshire Green Belt
- East Derbyshire Woodland Project Area

N W E S

Scale 1 : 80,000

MAP 6

Key Recreational Features



KEY

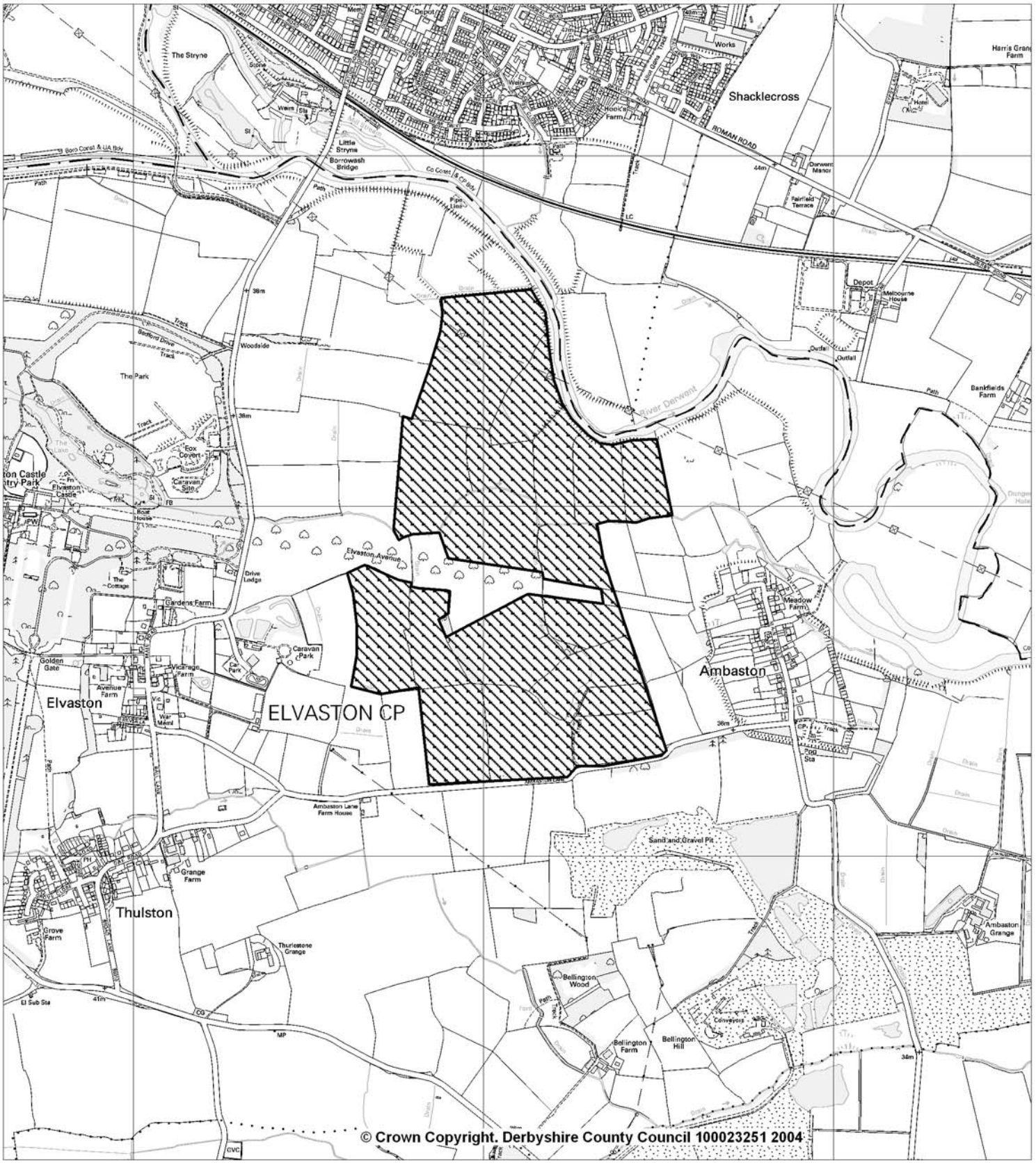
Minerals Local Plan Allocation

N
W E
S

Scale 1: 20000

MAP 7a

Study Site : Attenborough



KEY

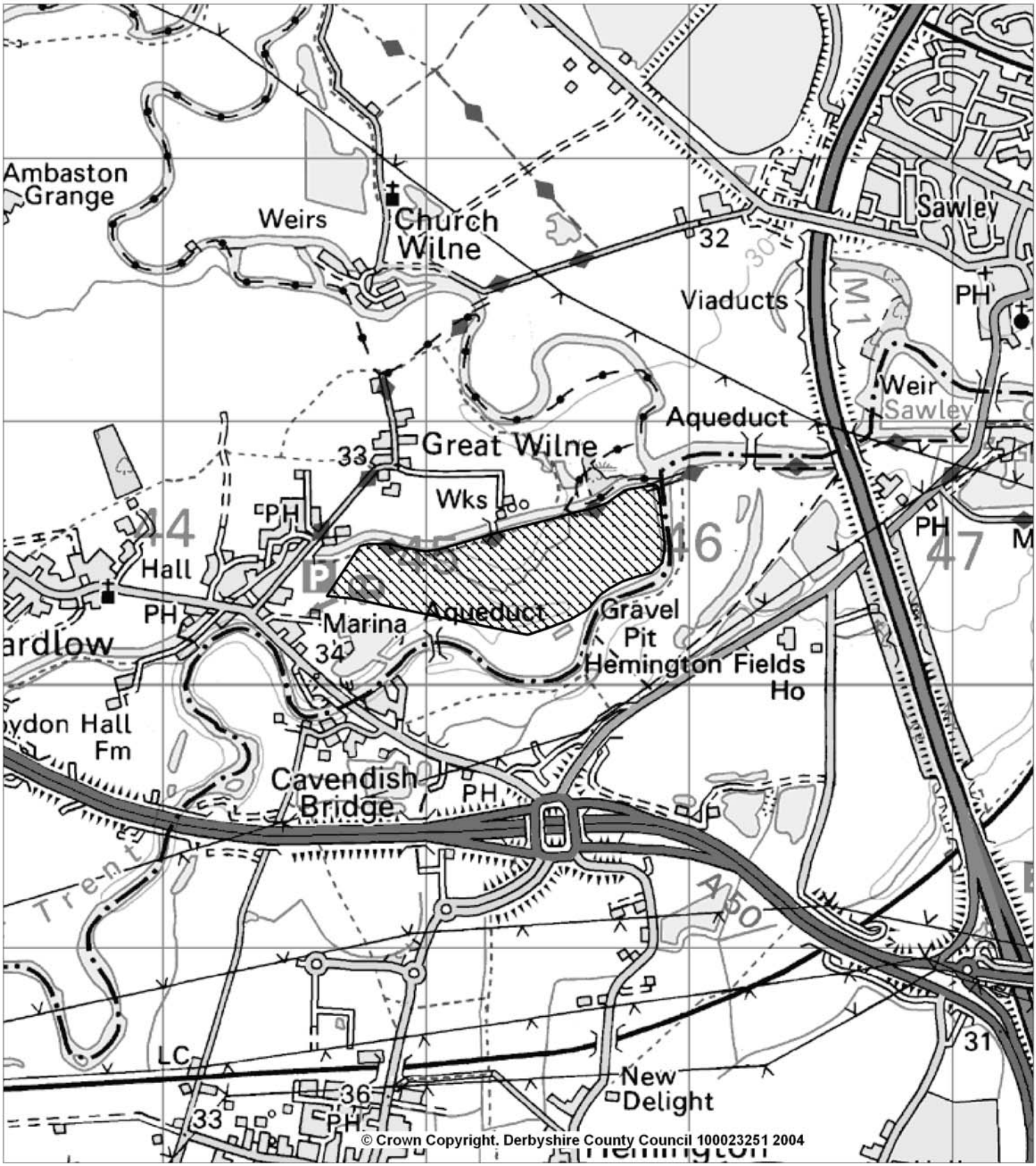
Minerals Local Plan Allocation

N
W E
S

Scale 1: 15000

MAP 7b

Study Site : Elvaston



KEY

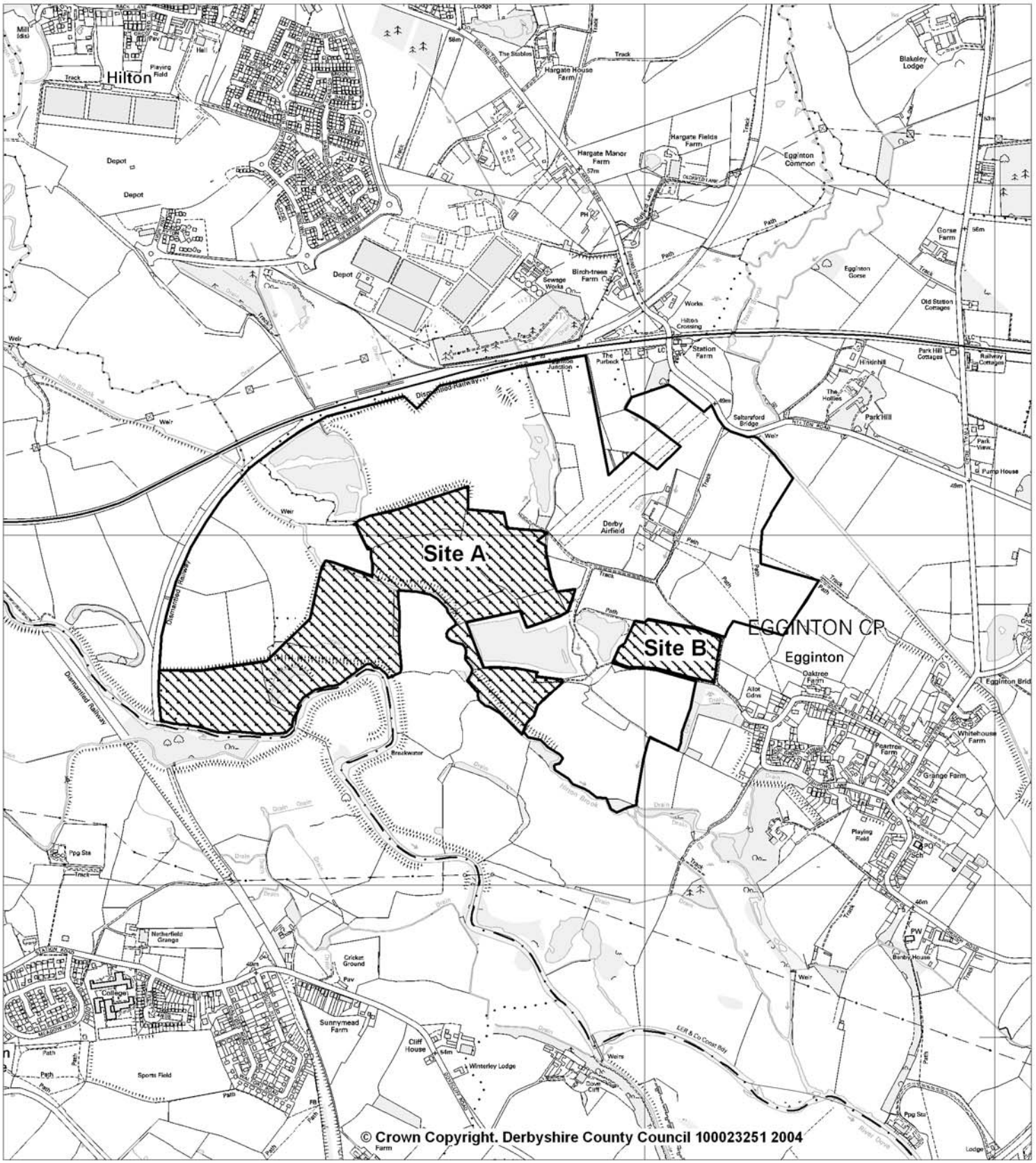
Minerals Local Plan Allocation

N
W E
S

Scale 1: 20000

MAP 7c

Study Site : Chapel Farm



KEY

Minerals Local Plan Allocation

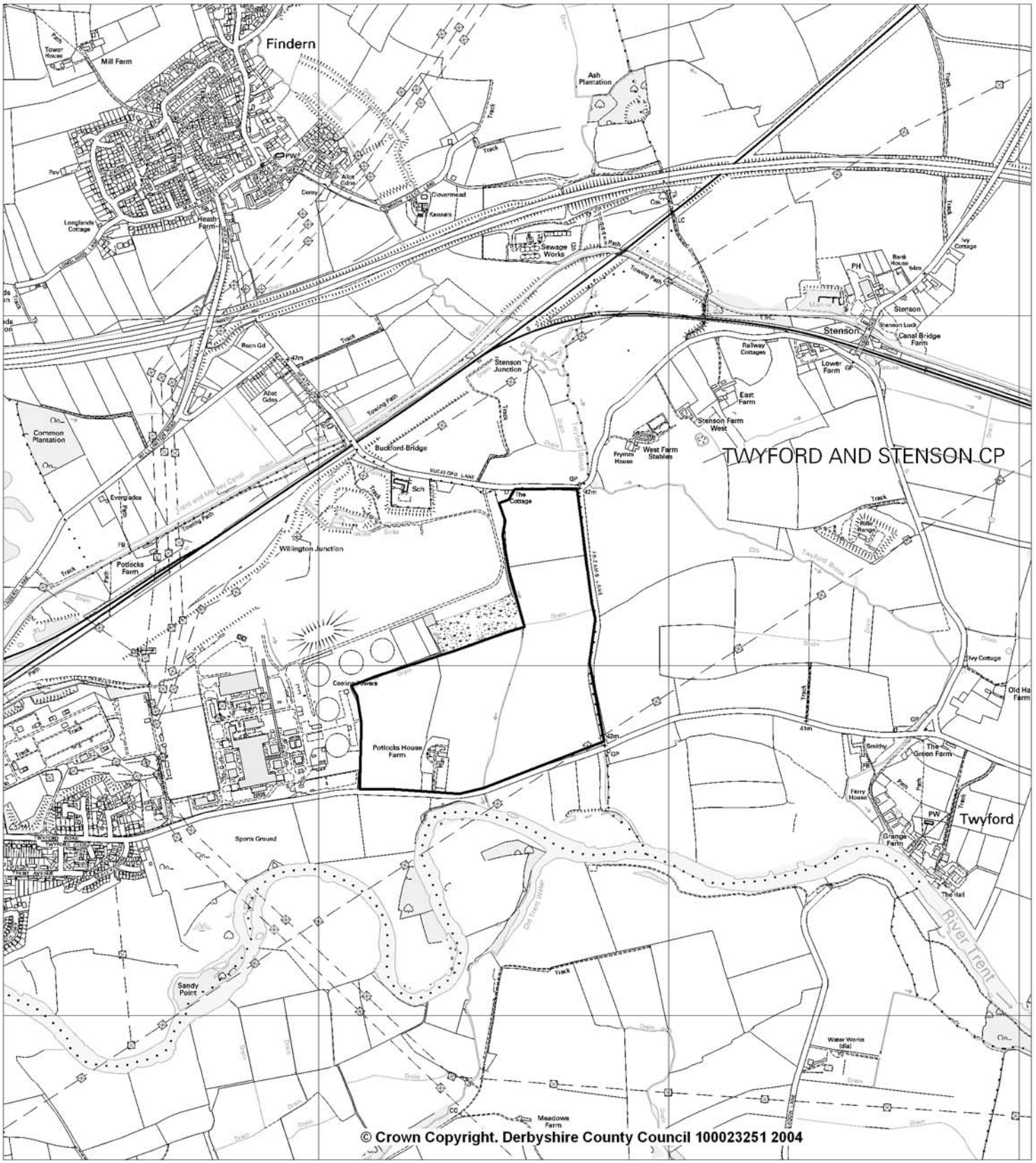
Site with Planning Permission where detailed reclamation scheme yet to be approved

N
W E
S

Scale 1: 15000

MAP 7d

Study Site : Egginton



KEY

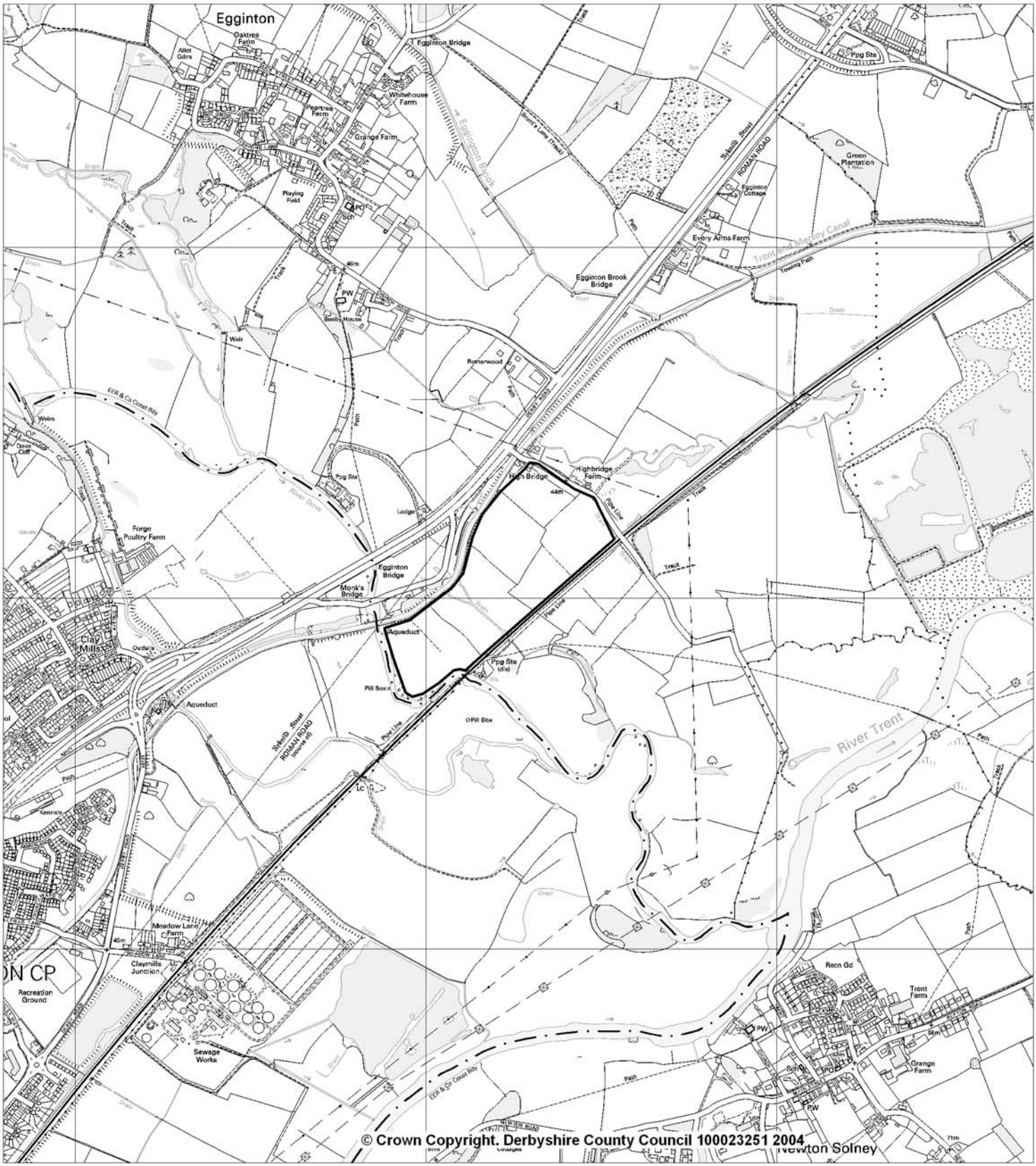
Site with Planning Permission where detailed reclamation scheme yet to be approved

N
W E
S

Scale 1: 15000

MAP 7e

Study Site : Potlocks Farm



KEY

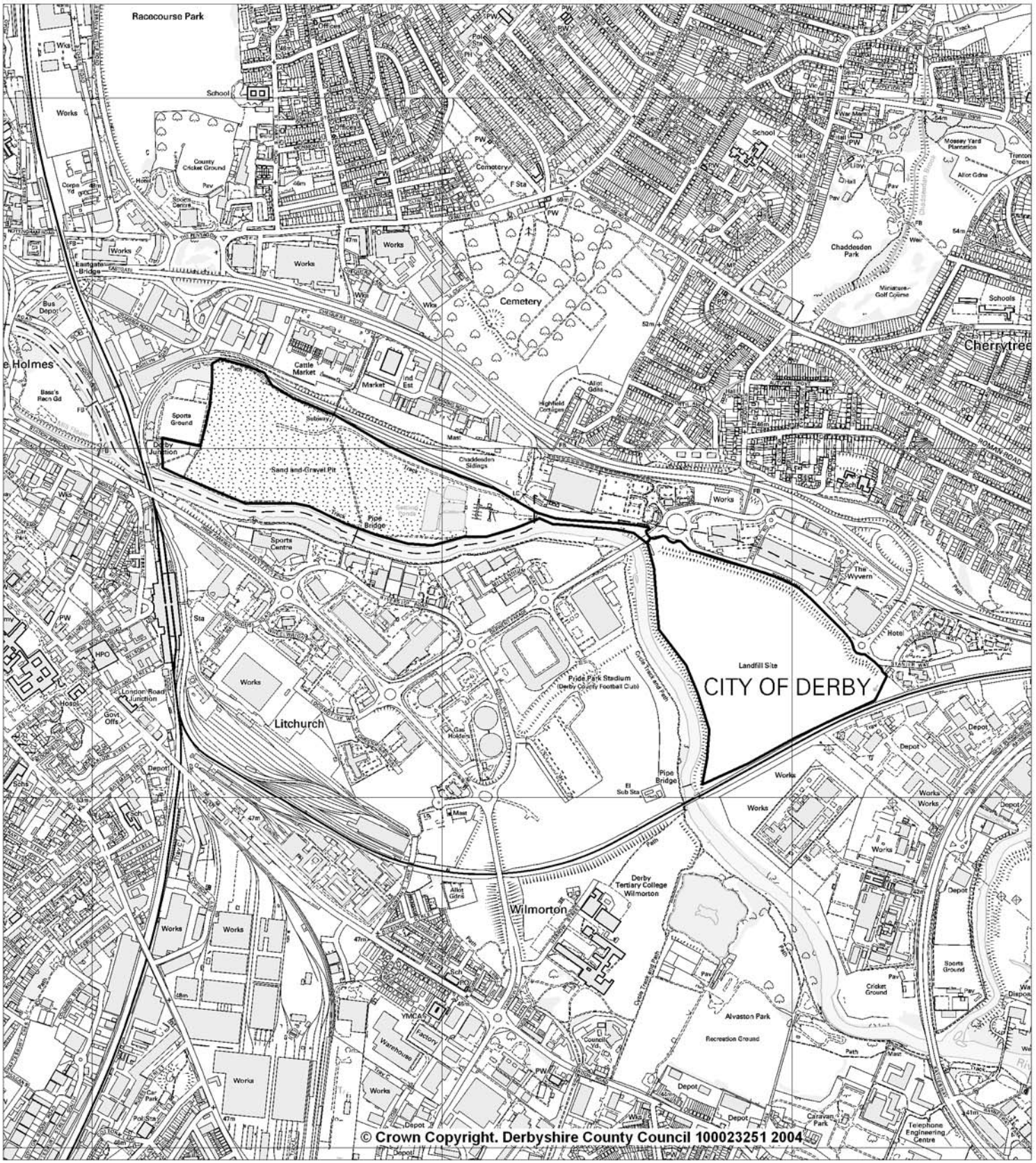
Site with Planning Permission where detailed reclamation scheme yet to be approved

N
W E
S

Scale 1: 15000

MAP 7f

Study Site : Highbridge Lane



KEY

Site with Planning Permission where detailed reclamation scheme yet to be approved

N
W E
S

Scale 1: 15000

MAP 7g

Study Site : Chaddesden