

SOUTH YORKSHIRE HISTORIC ENVIRONMENT CHARACTERISATION

**REVISED PROJECT DESIGN
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ENGLISH HERITAGE

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1 SUMMARY AND INTRODUCTION

There is now widespread recognition that the historic environment can make a significant contribution to regeneration, environmental sustainability and the quality of life. The Government has acknowledged this in its recent policy, statement *The Historic Environment: a Force for our Future* (DCMS/DTLR 2001). That statement also highlights "characterisation" as an important instrument for ensuring that the potential contribution and needs of the historic environment are properly considered when new development is being planned.

English Heritage has two major historic characterisation programmes under way at present. The first, (Historic Landscape Characterisation, or HLC), is mainly concerned with rural landscapes. The second, (Extensive Urban Survey, or EUS), is concerned with the archaeology, historic topography and built form of urban areas. Within both programmes, projects have been devised on a (post-1974) county basis, with the aim of achieving national coverage. Projects are carried out by county (or equivalent) archaeological services, in conjunction with the local authorities concerned. The two approaches are now converging in urban areas, in particular within Metropolitan conurbations, as HLC approaches and aims are being adapted and combined with EUS methods. English Heritage are providing funding to the South Yorkshire Archaeology Service to undertake a Historic Environment Characterisation project for the areas covered by the unitary authorities of Barnsley, Doncaster, Rotherham and Sheffield.

The project officers began work on the 2nd August 2004 and have now completed a pilot phase intended to develop and test a detailed characterisation methodology, tailored to the needs of this particular area.

2 BACKGROUND

2.1 Location and Description of the Project Area

South Yorkshire (**Figure 1**) covers four administrative districts (Barnsley MBC, Doncaster MBC, Rotherham MBC and Sheffield CC) and covers approximately 160,000 hectares (roughly 70km east-west by 45 km north-south). The majority of the area was part of the former West Riding of Yorkshire, but includes small areas formerly in Derbyshire and Nottinghamshire. The western fringe of South Yorkshire lies within the Peak District National Park, which has recently completed its own Historic Landscape Characterisation project (Barnatt et al, 2003).

Largely rural until the industrial revolution, much of South Yorkshire has in fact remained as such, with several of South Yorkshire's towns continuing as small market towns, e.g. Penistone, Tickhill and Bradfield. However, others, notably Barnsley, Doncaster, Rotherham and Sheffield, expanded considerably – giving the predominantly urban character of South Yorkshire today.

The topography of South Yorkshire is diverse, ranging from the highlands of the edge of the Peak District National Park, to the low peat-lands of the edge of Lincolnshire/Humberside. The Countryside Commission's Countryside Character volume 3 'Yorkshire and the Humber' (1998) describes four main Character Areas within the study area: the Yorkshire Southern Pennine Fringe, the Notts/Derby/Yorks Coalfield, the Southern Magnesian Limestone and the Humberhead Levels. The report's treatment of these areas (**Figure 2**) can be summarised as follows, from east to west:

Humberhead Levels – This character area is similar to the low-lying Somerset Levels and the Fens. *'Field trees and hedgerows are generally few and far between and views are often long and unbroken to distant horizons, with the sky playing an important part'*. Drainage has affected the character of this area, but *'around Fishlake and Sykehouse... the traditional pattern of small, thickly hedged fields, hedgerow trees, green lanes, networks of dikes and ditches... still remains'*. The area includes the *'remnant raised mire'* of Thorne and Hatfield Moors. Industrial and transport influences are seen as playing their part, with influences from the Selby coalfield and accompanying power stations, as well as from railways, major motorways and the canal.

Southern Magnesian Limestone – This character area reflects the *'narrow [elevated] ridge...[that] acts as a distinct barrier between the industrial coalfields to the west, and the lowland vales to the east'*. Fertile soil combined with the presence of *'a large number of country houses and estates'* has created a *'generally large scale, open landscape...'* where *'woodlands [combine] with open arable land to create a wooded farmland landscape'*. The underlying geology has influenced the area's character since prehistory, with *'archaeological remains reflecting the long standing importance of the area for settlement and transport'*; the area contains the *'main transport corridor of the A1'*. Vernacular building uses *'creamy white Magnesian Limestone... often combined with red clay pantile roofing'*.

Nottinghamshire, Derbyshire and Yorkshire Coalfield - This area's character has been determined by industrial activity, including *'mine buildings, former spoil tips and iron and steel plants'*. The characterisation describes a *'complex mix of built-up areas, industrial land, dereliction and farmed open country'* within *'rolling landforms with hills, escarpments and broad valleys'* - heavily influenced by the underlying Coal Measures. Major transport routes, such as the M62, M1 and mainline railways have influenced modern industrial development, leading to *'ribbon developments'*. The characterisation notes evidence for wealth in earlier times, resulting in the endowment of *'large country houses, parks and estates'* and *'grandiose ...19th century Town and Civic Halls, Schools, Museums and Art Galleries'*. This is juxtaposed with the presently *'fragmented and downgraded landscape... a landscape of neglect'* - the result of the decline of traditional heavy industries.

Yorkshire Southern Pennine Fringe – the eastern slopes of the Pennines, where character has been determined by *'extensive urban influences from a matrix of large and small towns'*, including the development of industry and associated settlement along river valleys. Vernacular building is in the local gritstone.

2.2 Context for Characterisation in South Yorkshire

2.2.1 Historic Landscape Characterisation 1994-2004

The project will form part of the ongoing and evolving national characterisation programme initiated by English Heritage, “justified by the need for improved understanding of the historic dimension of the landscape in order to help manage change in the whole archaeological and historic environment resource” (Fairclough 2002). For the most part, Historic Landscape Characterisation has so far focused on patterns of rural land-use. More recently, projects from the Extensive Urban Survey programme have been influenced by the characterisation methodology developed for rural areas. Both programmes have sought to understand the development of the historic environment and both seek to formulate strategies and frameworks for the future management of this resource.

Over the past ten years the methodology of Historic Environment Characterisation has developed, as new technologies available for the spatial analysis of historic environment data have emerged. English Heritage have recently undertaken a review of these developments. ‘Taking Stock of the Method’ (Aldred and Fairclough 2003) groups previous historic characterisation projects into 4 main ‘waves’ from the first project in Cornwall, begun in 1994, to more recent projects in Devon, Cumbria and Shropshire. The analysis of these waves shows an evolution and consolidation of the approach, most notably in the way projects have utilised developing GIS technology.

‘Taking Stock of the Method’ describes a mature and developed approach to characterisation in mainly rural areas. This project, however, will form part of the development of the HLC application into more complex metropolitan areas. Projects dealing with similar mixed areas are currently underway in Merseyside and the Black Country. The project officers have contacted both these projects to discuss the developing approach to Historic Environment Characterisation of metropolitan areas.

2.2.2 Local Characterisation Initiatives

Barnsley and Doncaster Metropolitan Borough Councils have both undertaken Landscape Character Assessments – Doncaster in 1994 (Ashmead Price Landscape Architecture) and Barnsley in 2002 (Land Use Consultants and ECUS). These projects examined the landscape primarily from a physical and ecological perspective and produced statements for each broad character area identified, which aimed to inform Unitary Development Plans. These assessments provide a framework that allows the data from this project to be related to other interpretations of the landscape. Initial results from the pilot areas show that this project’s ‘Broad Type’ areas show a strong geographical correlation with character areas defined in the earlier studies. The key difference lies in both the level of detail involved (the present project taking a finer grained approach) and the explicitly ‘cultural’ focus of Historic Environment Characterisation, especially concerning land use, settlement and the built environment. Historic Environment Characterisation is seen as an enhancement to, rather than a replacement of, the earlier studies.

Rotherham and Sheffield are both planning similar landscape assessments and the project officers are in touch with landscape and countryside planners in both authorities, to discuss the co-ordination of the present project with these initiatives.

2.3 Rationale for the South Yorkshire Historic Environment Characterisation

The industrial character of much of South Yorkshire means that the traditional approach, i.e. considering urban areas as separate from rural, is less appropriate here. Instead, a combined approach is proposed that integrates the modelling approach of the Extensive Urban Survey with the characterisation approach of Historic Landscape Characterisation. The Historic Environment Characterisation Survey (HECS) will allow the broad-brush approach of Historic Landscape Characterisation to be brought into urban areas, as well as allowing the archaeological potential of rural areas to be considered.

The landscape/townscape character of South Yorkshire reflects a cultural history that has produced distinctive patterns of settlement, communication and industrial development - including steel, coal mining and textile manufacture. Changes in technology and power sources, the availability of raw materials, transport and workforces, etc. have created complex patterns of industrial development, abandonment and redevelopment. Especially significant is the recent decline of coal mining, the steel industry, and other manufacturing, which has led to the disuse of buildings and sites and to large scale schemes of redevelopment and regeneration. This has important implications for the management of change, especially in urban and industrial areas.

This project aims to understand and appreciate the development of particular industries, such as steel, coal mining and textile manufacture, as well as the development of our major urban centres. At the moment, much evidence for the industrial period still survives in urban areas that are currently a focus for regeneration and redevelopment. Both here and in the rural hinterlands (which often themselves contain former industrial sites and areas) the character and extent of the historic resource needs to be clarified. Characterisation will ensure that both urban and rural historic environments are recognised and can be integrated into future strategies for development.

The characterisation project will allow the four local authorities of South Yorkshire to integrate the historic environment into regeneration programmes, in discussion with the South Yorkshire Archaeology Service. The characterisation will thus enable planners and prospective developers to have a better understanding of the likely constraints and potential benefits of development in a particular area.

The ongoing work of the project will be promoted throughout its life and the results will be disseminated widely. Regeneration agencies such as Objective 1 - South Yorkshire, Yorkshire Forward, the South Yorkshire Forest Partnership and Sheffield One are seen as key partners and end-users. The data produced by the project will be of particular interest to local authority teams involved in all aspects of planning development, conservation and sustainability.

It is anticipated that the project results will inform policies on land use allocations, Design Guidelines, Conservation Area designation etc., and be adopted as Supplementary Planning Guidance. In addition, local authority

Environmental Protection Services, who are involved in devising strategies for the remediation of contaminated sites, are keen to have access to the results, as these will help to identify historic environment concerns. Aside from assisting in regeneration decisions, the work will also support the development of management plans and strategies for particular land areas, e.g. agri-environment schemes such as Countryside/Environmental Stewardship. As the project gains momentum, and as partnerships are established with local authorities, development agencies and other stakeholders, the list of applications and end-users is expected to grow still further.

3 AIMS AND OBJECTIVES

3.1 Overall Aims

Experience shows that new development will be more successful if it has been informed by a proper understanding of the historic environment within which it is located, i.e. the evolution and dynamics of the present-day landscape, or townscape.

Public awareness of the environment fosters both commitment to, and involvement with local communities, together with a shared pride in local surroundings.

The South Yorkshire Historic Environment Characterisation survey aims to facilitate sustainable change to the historic environment and to help manage that change effectively, by making information readily available - to assist decisions on land use planning; regeneration; environmental management; and economic and cultural activity. The end product will help to ensure that planning, conservation and land management strategies are soundly based in an understanding of the individual character of the places they affect.

The project data has great potential to be used as an interpretive tool by the wider community, facilitating learning about the historic environment of South Yorkshire. The project will aim to encourage this by making accessible syntheses of the character mapping widely available to the public.

The first goal of the project is to define and assess the historic character of today's urban and rural environment in South Yorkshire, to provide a soundly-based spatial characterisation of the historic environment.

3.2 Key project aims

- Identifying, mapping, analysing and describing the historic characteristics of present day landscapes and townscapes and assessing their significance - to inform initiatives that will enhance local distinctiveness and sense of place, e.g. in Development Frameworks, within Design Guides, in regeneration and environmental improvement schemes and in local community projects.
- Ensuring that information on historic character is readily available - to guide the evolution of projects from the outset, when development and other new projects are being planned. This will allow better-informed schemes and proposals.

- Providing a workable, flexible and easily understood framework that can accommodate a wide range of data from different disciplines and give it context and meaning. Historic Environment Characterisation combined with other data, e.g. from economic and social fields, will enable a greater understanding of places and the processes of change, helping in modelling and framing a broader range of management actions.
- Providing a resource that is comprehensible to specialist and non-specialist alike. Making the results widely available to the public will support community planning exercises and other community initiatives.
- Producing a dynamic tool, not a static record, for understanding and managing the environment. To ensure its continued usefulness, the project will investigate provision for future review and maintenance of the data, and the continuing participation of the wider community.

The project will have the following broad characteristics:

- It will take a geographically comprehensive “broad-brush” approach to historic characterisation of the urban and rural environment. This will produce a broad spatial and temporal framework, providing both a starting point for more detailed local studies, and a context within which their results can be viewed.
- It will be GIS-based, making full use of digital historic Ordnance Survey and other maps, vertical aerial photography and modern digital Ordnance Survey mapping. This is a fast and relatively inexpensive way of undertaking the necessary information gathering and analysis.
- The GIS data will be held alongside other datasets of information about specific areas, structures and buildings. Its assessment alongside these other thematic data (e.g. land use, architecture, environmental, building materials and condition, traffic flow and access patterns, social and economic data), will assist with specific studies and as a regeneration/management tool. Further detail can be added to this database, as and when available, or as required for specific local purposes.
- It will provide Historic Environment Characterisation for the rural parts of South Yorkshire and (in more detail, where appropriate) for urban and suburban areas. For urban areas, the historic growth and development of the town will be charted, as will the character of the present day built environment.
- The GIS-based information thus produced will be disseminated to the South Yorkshire unitary authorities, and to other agencies involved in regeneration, so that it is readily available to them in their work.
- Public access to the project will be provided through the Internet and through public talks and presentations. Public perceptions of character will be actively sought and recorded.

3.3 Summary of Aims and Objectives

Aim 1: Characterisation of the visible historic environment of the whole of South Yorkshire.

Objectives

- Identification of relevant source material and the precise level of data to be collected
- Definition of character types and areas
- Recording of character areas and their constituent attributes on the GIS database

Aim 2: Analysis of the characterisation data.

Objectives

- Assessment of the relationships between present character, past historic development and its environmental context (for example the hydrological, geological and pedological background to the landscape).
- Identification of character areas within the characterisation data, i.e. group inter-related polygons in a discrete geographical area.
- Narration of the development of character types
- Identification of the potential for archaeological remains (both above and below ground), the historic importance and the current condition of character areas and their key components
- Identification of the 'forces for change' acting on the character areas and their key components

Aim 3: Formulation of management and research strategies, including recommendations on managing change to the South Yorkshire historic environment.

Objectives

- Production of advice for the management of the identified character areas and zones of archaeological potential, in the light of the predicted direction of future change
- Proposals for using the characterisation in planning and influencing regeneration and other re-development proposals
- Adoption of the results as Supplementary Planning Guidance; reviewing planning policies in Development Frameworks
- Consideration of how the results will be reviewed in the future, in order for changes over time to be monitored
- Identification of further research objectives

Aim 4: Outreach and Dissemination throughout the life of the project.

Objectives

- Public participation, to seek community views and perceptions, to inform the characterisation exercise
- Promotion of the ongoing work of the project via displays and presentations, web pages, etc., to encourage support from stakeholders, including the wider public
- Publicising the final results to the public via the production of leaflets, press releases, and web-pages.
- Dissemination of the project results and promotion of the resource to the four South Yorkshire councils and regeneration agencies
- Production of a CD-ROM containing GIS layers from the project and a report of the detailed analyses undertaken
- Exploring the potential for wider dissemination through formal publication

- Recommendations for ways in which the four South Yorkshire councils and SYAS might use the characterisation as a platform for future public participation

Aim 5: Archiving and Maintenance of the database.

Objectives

- Creation of an archive of both paper based and digital project materials, constructed in line with relevant standards and best practice. This will be deposited with the most appropriate archive repository.
- Formulation of a strategy for the ongoing maintenance of project data.

4 PILOT STUDY AND SET-UP PHASE

4.1 Aims and Objectives of the Pilot Study

The appointment of two project officers at the start of August 2004, who will take the South Yorkshire Historic Characterisation forward, allowed a pilot study to be rapidly devised to guide the future work of the project.

4.1.1 Pilot Phase Aims

- Familiarisation of the project officers with the project area
- Familiarisation of the project officers with the methodology and objectives of HEC
- Clarification of the training needs of the project officers
- Establishment of partnerships, with initial promotion of the project to stakeholders and the development of partnerships with possible end-users
- Evaluation of various data sources
- Pilot studies designed to design and test a unified urban and rural characterisation methodology
- Production of a detailed Method Statement and detailed estimate of overall project costings

In order to satisfy these aims, the pilot phase was broken into three sub stages namely: Fact Finding; Data Collection and Digitisation; Dissemination and Consultation. The results of these processes have informed the methodology as described within this project design.

After initial fact finding on the general aims of historic characterisation, the project officers identified three areas (**Figure 3**) in which to test and develop a specific methodology for the South Yorkshire Project.

The final product of the Pilot Phase is the detailed method statement outlined in **Section 5**.

4.2 Fact Finding

4.2.1 Characterisation projects

The project officers familiarised themselves with the current state of knowledge on characterisation (see **Section 2.2.1**) and with other Metropolitan characterisation projects. A visit to the Black Country characterisation project was undertaken and discussions have been held with the Merseyside characterisation project officer.

4.2.2 Software Training

During the pilot phase, the project officers became familiar with both the MapInfo GIS package and the exeGesIS HBSMR database. Systems are now

working to an acceptable degree, allowing the characterisation project to progress despite a number of initial 'teething troubles'.

4.2.3 Area Selection

The pilot areas (**Figure 3**) were carefully selected, to provide the project officers with an opportunity to test the characterisation methodology on as diverse a range of South Yorkshire environments as possible. It was felt crucial that, during the evaluation phase, a methodology that could deal with environments of varying complexity was developed. Each area chosen was characterised by a different intensity of occupation, a process directly related to the complexity of spatial structure and historical time depth. By taking each area in turn, in the order of this 'occupation density', the project officers were able to better assess the time commitments that such levels of occupation would demand over the life of the project and evaluate the most important data to be collected.

4.3 Data Collection and Digitisation

This period of the pilot study was allocated a total of nine weeks, with three weeks for each pilot area. After this period, the methodology was refined, as outlined below, and the revised methodology briefly tested on the three areas.

4.3.1 Area 1

Area 1 (**Figure 4**) covers parts of Barnsley, Sheffield and the Peak District National Park. It totals 10,340 hectares. The area encompasses a rural landscape with much unenclosed land to the west, with settlement activity increasing as the landform drops down to the east. The 'upland' characteristics of much of the area mean that many of the historic character types were expected to equate to some of those already described by the Peak Park characterisation exercise. It was expected that this area would prove the fastest to characterise.

In the time available, 6,932 hectares (of the possible 10,034) were characterised (**Figure 5**). During the initial three weeks, the digitisation speed of the project was generally slow (200 – 250 ha. per day) as the project officers gained familiarity with the project technology and methods. After the methodology was reviewed and this area was revisited, a speed of up to 850 hectares per day was achieved. Overall, as expected, this pilot area proved the quickest to characterise.

Broad Type	Total Units	% of Character Units	Total Area (ha.)	Area as % of Pilot area	Average Unit Size (ha.)
Commercial	1	1	2	<0.5	2
Enclosed Land	35	38	3277	47	94
Extractive	6	7	298	4	50
Institutional	6	7	6	<0.5	1
Ornamental, Parkland and Rec.	2	2	12	<0.5	6
Residential	20	22	38	<0.5	19
Unenclosed Land	4	4	2940	42	735
Water Bodies	9	10	185	3	21
Woodland	9	10	174	3	19

Table 1: Average character unit size in Area 1

Table 1 shows both the relative proportions of different land uses within Area 1 and the character unit sizes within each Broad Type. As expected, the integrated rural / urban approach increases the overall complexity of the project significantly. Even with the limited occupation density of this area (urban-type activity accounting for 1.5% of the total area examined – area as percentage of pilot area), small polygons associated with urban-type activity (residential, commercial and institutional uses) accounted for over 30% of the detail recorded (percentage of units polygonised).

Enclosure types showed definite patterning with ‘Surveyed Enclosure’ concentrated on higher former moorland areas and ‘Enclosed Strip Fields’ on the lighter soils around medieval nucleated settlements such as Thurlstone, Carlecotes and Ingbirchworth. To the west of Penistone, an area of ‘Ancient and Piecemeal Enclosure’ was identified. Settlement activity in this area consists of dispersed farmsteads with fragmentary medieval outbuildings amongst an irregular field pattern displaying little evidence for earlier ‘open field’ systems (**Figure 6**). The only nucleated settlement not associated with a former open field system, Millhouse Green, is of post-medieval foundation and is largely a product of the concentration of water mills along this stretch of the Upper Don and their expansion during the 19th century.

All the settlements show large-scale expansion in the 20th century (at least 62% of the present built environment in this area dates to the 20th century). Despite this growth, a number of the settlements retain their historic cores. Thurlstone retains a large number of former weavers’ cottages with characteristic ranges of high placed mullioned windows – recorded as a ‘Craft Industry’ character type (**Figure 7**). The core of Ingbirchworth retains post-medieval vernacular farm buildings of some quality. However, there has been erosion of character in this village from the conversion of many of these buildings to residential use

4.3.2 Area 2

Area 2 (**Figure 8**) covers Adwick-le-Street and Askern and is neatly divided between the rolling landscape of the Magnesian Limestone ridge and the lowland landscape of the Humberhead Levels. It totals 9,466 hectares. It is an area much affected by the exploitation of underlying coal seams during the 20th century and the subsequent economic decline of communities after the closure of pits from the 1980's onwards. This area was expected to produce stark contrasts between the current post-industrial landscape and a previous landscape of early enclosure, which can be reconstructed from the first edition Ordnance Survey. The growth of industrially stimulated settlements in this area allowed the project officers to develop the methods needed to examine the complex rural and urban mix found over much of South Yorkshire. In the time available, 4,965 hectares (of the possible 9,466) were characterised (**Figure 9**). During the initial three weeks, digitisation progressed at approximately 175-190 hectares per day. After the methodology was reviewed and this area was revisited, a speed of up to 600 hectares per day was achieved.

Broad Type	Total Units	% of Character Units	Total Area (ha.)	Area as % of Pilot area	Average Unit Size (ha.)
Commercial	3	2	14	< 1	5
Communications	3	2	47	< 1	16
Enclosed Land	38	28	3765	75	101
Extractive	4	3	318	6	80
Industrial	5	4	130	3	26
Institutional	13	9	34	< 1	3
Ornamental, Parkland and Rec.	14	10	272	5	19
Residential	55	40	340	7	6
Unenclosed Land	1	1	13	< 1	13
Water Bodies	-	-	-	-	-
Woodland	2	1	32	< 1	16

Table 2: Average Character unit size in Area 2

Examination of the thematic map drawn from previous Broad Types at 1850 (**Figure 10**) shows an area dominated by large landscaped parks and gardens, with estate villages at Skelbroke, Burghwallis, Owston and Campsall. Elite recreation was represented by the spa town of Askern to the east. The estates sat within an agriculturally rich landscape of enclosed fields, where those closest to the larger villages often displayed the enclosed strip pattern of enclosed medieval 'town fields', while those on the lower-lying land to the east represented post-medieval drainage and agricultural improvement of wetland carr.

In the twentieth century, the area was drastically altered by the exploitation of the underlying coal seams, with major deep shaft pit heads at Bullhouse Main (Skellow / Carcroft) and at Askern Main in the early years of the century. These mines led to rapid settlement growth (at the expense mostly of farmland) and the creation of major new features in the landscape, in the form of spoil heaps, now 'landscaped' or overgrown.

The urbanised areas of this pilot area provided a wide range of character types, from privately built modern estates, to complex social housing developments built to house colliery workers. The pilot study found strong character differences between earlier and later social housing during the 20th century, with trends developing towards higher densities and less provision of social space. Settlement cores, where the character predates the 20th century, survive at Norton, Campsall, Owston and Burghwallis (with the last two containing regionally important groups of 'country estate' planning).

However, during the 20th century development pressures have focused on the former burgage plots behind the vernacular street fronts – resulting in a significant loss of rural character in these settlements. These developments are also likely to have disturbed important medieval evidence (**Figure 11**).

Table 2 shows that over 50% of the character units in this area related to urban/industrial environments whilst enclosed landscapes accounted for just 28% of the character complexity. Within these 'Enclosed Land' units there has been a blurring of the distinction between 'Surveyed Enclosure' and 'Enclosed Strip Fields', due to the agglomeration of many fields during the 20th century. Within the 'Enclosed Land' Broad Type, "Agglomerated Fields" is now the dominant character type, making up over 50% of the category.

4.3.3 Area 3

Area 3 (**Figure 12**) covers the centre of Rotherham and part of its industrial periphery. It totals 708 hectares. The area was chosen in order to test the methodology's ability to characterise a complex urban conurbation. In addition to the opportunity to examine the survival of the medieval core, the area chosen allowed the growth of later industrial and post-war developments to be charted. The project will attempt to capture the former rural environment, where this has been fossilised by the formation of the later urban settlement - for instance by laying out street patterns within boundaries defined by earlier field systems, or where farm buildings have survived within the later town fabric. It was anticipated and shown that areas such as this would need to be studied at a much closer scale than the 1:10000 scale generally used for rural characterisation.

As expected, this area proved the slowest of all to progress. In the time available, just 352 hectares (of a possible 708) were characterised (**Figure 13**). Initial digitisation speed was just 4.6 hectares per day. After the methodology was reviewed and this area was revisited, a speed of up to 75 hectares per day was achieved.

Broad Type	Total Units	% of Character Units	Total Area (ha.)	Area as % of Pilot area	Average Unit Size (ha.)
Commercial	20	24	12	3	0.6
Communications	7	8	5	1	0.8
Enclosed Land	-	-	-	-	-
Extractive	-	-	-	-	-
Industrial	9	10	31	9	3.4
Institutional	15	17	22	6	1.5
Ornamental, Parkland and Rec.	9	10	42	12	4.6
Residential	29	33	241.05	68	8.3
Unenclosed Land	-	-	-	-	-
Water Bodies	-	-	-	-	-
Woodland	-	-	-	-	-

Table 3: Average Character unit size in Area 3

This pilot area produced some of the toughest challenges for the project officers. The medieval core of the town proved particularly difficult, due to the intensity with which this area has been redeveloped. As comparison of **Table 3** with **Table 1** and **Table 2** shows, the units in this area are the smallest in size of all the pilot areas. They also proved to have the greatest frequency of previous types to record. However, the pilot area chosen showed that problems of detail are most severe in the very centre of the town. In the residential suburban areas, the presence of large areas of planned residential development allowed larger character units to be drawn. Here, therefore, the process can move much quicker. The project officers only expect to reach the same fine level of character intensity in the historic cores of Sheffield, Rotherham, Barnsley and Doncaster (in total, around 800 hectares).

4.3.4 Evaluation of Data Collection and Digitisation Phase

Data Sources

The pilot phase relied primarily on digital mapping from the Ordnance Survey – Landmark Information Group joint historic mapping project (supplied under licence from English Heritage) combined with rectified aerial photography provided by the four South Yorkshire authorities. Two main problems have been identified with the data supplied by English Heritage: little metadata supports the mapping ‘epochs’, making it difficult to identify the actual date of the map reproduced; and incomplete coverage of the 25 inch to the mile series was received. Despite these shortcomings, which are being discussed with project partners at English Heritage, these sources were found to be far easier to use than traditional paper mapping. Supplementary mapping, particularly for the 20th century, is being sourced from archive sources, as necessary.

Enclosure maps have been consulted by the project officers during the monthly 'field-testing' sessions. These have been found particularly helpful in verifying the interpretations of enclosure processes based on morphological analysis of field patterns.

Written sources have also been consulted, where specific themes have required illumination. These have been used, for example, to help in the dating and typological analysis of industrial buildings. A working bibliography for the South Yorkshire project is included at the end of this document.

Digitisation

The pilot phase digitisation process has clarified both the scales of analysis to be expected and the length of time needed to undertake this stage of the work. Based on the pilot study work, it is expected that the project will not use fixed boundaries of scale for the character database, with all areas recorded as a unified GIS layer. However, each different broad type can be expected to resolve into units of relative size, due to the similar geographical extent of areas of comparable character (See **Table 4**).

Broad Type	Typical polygon size (hectares)
Commercial	3
Communications	7
Enclosed Land	90
Extractive	65
Industrial	10
Institutional	2
Ornamental, Parkland and Rec.	8
Residential	8
Unenclosed Land	750
Water Bodies	10
Woodland	10

Table 4: Approximate Average Polygon Sizes by Broad Type

South Yorkshire can be sub-divided into 128,590 hectares of rural land and 31,410 hectares of urban land (see **Figure 3**). If one assumes that these areas can be polygonised with units on average of 100 and 7 hectares respectively (adjusting the figures to take account of moorland in rural areas and city centres in urban environments) this will result in 1286 rural polygons and 4487 urban polygons – a total of 5773 polygons.

By the end of the pilot study, the project officers were able to digitise around 12 polygons each, on a working day. With a small adjustment to allow for field tests, meetings and administration during the digitisation phase, a combined average rate of 22 polygons a day seems a reasonable working amount. Based on the working figures above, this would mean the digitisation phase could require 265 working days. With an allowance made for annual leave, sickness etc. this equals just under 15 months.

These figures provide a framework by which the project's progress can be monitored over time. If either polygon sizes or digitisation rates vary widely from the expected figures, remedial action can then be taken.

4.4 Pilot Phase Dissemination and Consultation

The pilot phase sought to establish consultation processes and encourage participation from potential end users (both institutional and public), as well as considering the eventual dissemination of the project results.

The project officers arranged meetings with landscape planners, conservation officers and forward planners of the South Yorkshire local authorities, attended a meeting of the Rotherham Heritage Association and made a presentation at South Yorkshire Archaeology Day. The project has also formed strong links with characterisation teams in the Black Country and Merseyside. A summary of the project has been posted on the South Yorkshire Archaeology Service's web.

As part of these presentations, the project officers have been exploring ways to both analyse and display project data, using the 'thematic' mapping capabilities of the GIS software. Examples of this output are used as figures within this project design. Those which created the most interest were the 'Time Slice' maps of historic character at given periods and the detailed maps of the present historic character of urban areas. The data produced by the project is capable of a large suite of analyses and the pilot work has identified a need to export completed data sets in a more accessible format than the MapInfo tables on which it is being initially recorded. It is anticipated that this will involve the development of a simple MS Access interface in-house.

When presenting the project, the officers have sought feedback both on the emerging character types and on possible end products. At South Yorkshire Archaeology Day (an event aimed at members of the public) many respondents to a questionnaire distributed by the project officers felt that they were most likely to access the project data if it were made available though the internet. There was a strong identification with the core project concept of 'historic character'. Many had firm opinions on perceptions of character change locally and openly supported the project's aims and objectives.

Institutional stakeholder groups have also expressed much interest in the project, and would generally like to see the results made available as part of a growing suite of GIS information available over the various council intranets. During the pilot phase, project officers met with officers from the corporate GIS unit of Sheffield City Council, who are currently developing a new system to deliver an integrated intranet and internet solution for displaying geographical data. They are interested in making thematic mapping from the project available on this new system; it may be possible for this system to host the results for all of South Yorkshire.

5 METHOD STATEMENT

5.1 Characterisation and Mapping

The Characterisation and Mapping phase of the project will use MapInfo Professional v7.5 to create a GIS of the Historic Environment of South Yorkshire. The GIS will be supported by a database using the Historic Landscape Character module of HBSMR v3.03 from exeGesIS Spatial Data Management.

The accepted core best practice for this part of the characterisation process was defined during the 2001-2 national HLC Method Review (Aldred & Fairclough 2003). The South Yorkshire project is based upon the English Heritage Template Project Design, which formed an appendix to that document. The proposed project methodology has been tested and further refined during the pilot phase. Discussions with the steering group and the advisory group have also influenced the final methodology.

The project will characterise both rural and urban areas. This is a relatively new departure for Historic Environment Characterisation. Sample testing of areas during the pilot study has shown that the polygon size necessary to define distinct character areas varies according to the complexity and frequency of human action within a location. In urbanised areas typical polygon sizes are within the range of 5-10 hectares. In contrast, areas in agricultural use (typically Enclosed Land) require character areas of, on average, 90 hectares. In the pilot study it was found that the mapping scales used for recording attribute detail vary according to polygon size. Where polygons are sufficiently small (i.e. within urban areas) historic 25 inch-to-the-mile or modern 2500 'Landline' data sources are most appropriate. For rural areas, the historic 6 inch-to-the-mile or modern 1:10000 series mapping is sufficient. The flexible zooming and overlay capabilities of the GIS allow these scales to be varied according to individual circumstances and polygon sizes. The two characterisation officers will work within the same general area of South Yorkshire simultaneously. Working within the same general area will facilitate informed discussion on similarities and differences in perceived character units and allow for sharing of information; problems and areas of ambiguity will be more easily overcome with this approach. The project officers will work in adjacent 10km grid squares.

The project is primarily a desk based project utilising current mapping, historical mapping and vertical aerial photos. Provision has been made to rapidly verify the results of the characterisation by making a number of area visits. One day will be spent in the field for approximately every 10,000ha characterised. The aim of the field visits will be to check the accuracy of the attribute recording and descriptions on the ground, as well as to compile a digital photograph record of selected character units.

Each broad component of any given polygon must possess characteristics that can be assigned to the same historic environment type e.g. terraced housing, open fields, etc. For example, the components are all fields that are over 10 ha in size and have one or more sinuous boundaries.

If a proposed present day polygon would have different past historic environment types, then the discrete past types will be used to define the

present day polygons. For example, where a 'private housing estate' covers land that had previous historic environment types of 'terraced housing' and 'allotments', two polygons will be drawn. The first polygon will have a current historic environment type of 'private housing estate' with a previous historic environment type of 'terraced housing'. The second polygon will have a present type of 'private housing estate' and a previous historic environment type of 'allotments'. At the analysis stage the 'private housing estate' will appear as one area on the GIS maps with two separate trajectories of land use.

There will be three broad sets of data collected:

- Broad Character type
- Attributes
- Historic Environment Character

5.1.1 Broad Character Type

Eleven broad character types have been chosen for the characterisation. They are listed in **Table 5** below.

Broad Types	Description
Commercial	Business areas including retail and office units.
Communications	Main communication nodes. Linear features such as roads and canals are not generally marked, but the main features linking these are. Records areas such as train stations, transport interchanges, airports etc.
Enclosed Land	Land that has been demarcated and enclosed, particularly fields
Extractive	Areas involved with the extraction of commodities and minerals such as fuel or building materials.
Industrial	Areas concerned with industrial processes and manufacturing.
Institutional	Areas (with or without buildings) connected to large establishments, associations and organizations.
Ornamental, Parkland and Recreational	Designed landscapes and those used for recreational purposes.
Residential	Areas where people live. Includes large individual houses and housing estates.
Unenclosed Land	Unimproved land, open land, moorland, etc.
Water Bodies	Large water bodies including reservoirs and lakes. Does not include millponds.
Woodland	Land with dense concentrations of trees.

Table 5: Broad Character Types

5.1.2 Attributes

The suite of attributes to be used has been decided following trials during the pilot phase. Attributes describe aspects of each polygon's character and help to define the Historic Character Type. A number of attributes were discarded following the trials, being difficult to discern, non-indicative of character, or over-descriptive. The finalised attributes are listed below in **Table 6**.

Attribute	Description	Recorded in (Broad Type)	Value	Scope Note
Boundary Loss	Describes the degree of boundary loss from the 1 st edition Ordnance Survey maps c.1850 to the present day c.2000	Enclosed Land, Woodland	Much	> 40%
			Some	15%-40%
			Little	< 15%
Boundary Morphology	Describes the linear nature of boundaries within a polygon	Enclosed Land, Woodland	Curvilinear Boundaries	Boundaries that are curved
			Erratic Boundaries	Boundaries that are irregular or make sudden changes of direction
			S-Curved	A gentle reverse S-curve, typical of strip fields
			Straight Boundaries	Perfect (or near perfect) straight, surveyed boundaries
Boundary Type	The dominant type of boundary within a polygon	Enclosed Land	Dry Stone	Dry stone walling
			Fences	Wooden or Post & Wire fencing
			Hedgerows	Neat, maintained hedgerows
			Overgrown Hedgerow	Where hedge species have been allowed to grow into mature trees and/ or the boundary has become discontinuous and been replaced by a fence
			Other	Other boundary type
			Drainage Ditches	

Attribute	Description	Recorded in (Broad Type)	Value	Scope Note
			Not Recorded	Unable to specify
Building Scale	Typical scale of building units	Ornamental, Parkland & Recreational; Commercial;	Very Large > 5ha	
			Large 1.5ha-5ha	
<i>Building Scale (cont.)</i>		Institutional; Industrial	Medium 0.1ha - 1.5ha	
			Small <0.1ha	
			No Buildings	
Commercial Sub Type	Denotes the type of commercial Activity	Commercial	Business	
			Retail	
Communications Sub Type	Denotes the type of travel mode	Communications	Air	
			Rail	
			Road	
			Water	
Elevation	How high the land is Above Ordnance Datum (mAOD).	Unenclosed land	Highland	land above 240mAOD
			Lowland	Land below 240mAOD
Extraction Product	The product that is being mined or extracted	Extractive	Aggregates	Sand, gravel, crushed rock or other bulk materials
			Clay/ Bricks	Clay pit possibly with associated brick works
			Coal	Deep shaft or open cast

Attribute	Description	Recorded in (Broad Type)	Value	Scope Note
			Stone	
			Refractory Materials	Including ganister
			Not Recorded	
Field Size	The typical field size within a polygon	Enclosed land	Large	> 10ha
			Medium	2-10 ha
<i>Field Size (cont.)</i>			Small	< 2ha
Housing Density	Number of houses per hectare	Residential	High Density Housing	(Over 55 Homes Per Ha.)
			Medium Density Housing	(25-55 Homes Per Ha.)
			Low Density Housing	(Under 25 Homes Per Ha.)
Industrial Sector	Dominant industrial use	Industrial	Ceramics	
			Chemical	
			Concrete Works	
			Construction	
			Electronics	
			Food Processing	
			Fuel Storage/ Processing	
			Glass Works	
			Heavy Engineering	
			Light Engineering	

Attribute	Description	Recorded in (Broad Type)	Value	Scope Note
<i>Industrial Sector (cont.)</i>			Metal Trades	Connected with the production / processing of metal goods
			Mixed Commercial, Industrial	
			Paper / Printing	
			Power (Distribution)	
			Power Generation (Fossil Fuels)	
			Power Generation (Renewable)	
			Recycling	
			Sewerage / Water	(Not Reservoirs)
			Telecoms	
			Textiles And Clothing	
			Not Recorded	
Institutional Sub Type	Denotes the type of Institution	Institutional	Civil And Municipal	Pertaining to national & local government, the penal system, etc.
			Educational	Schools, colleges and universities
			Medical	Hospitals, nursing homes, almshouses
			Military	Including fortified sites such as castles and hillforts
			Religious	

Attribute	Description	Recorded in (Broad Type)	Value	Scope Note
Legibility	Records the extent to which 'the past' can be perceived within the present day polygon.	Recorded for all broad types	Complete	Used if the present day character type has historical value.
			Significant	Many elements of previous historic environment character types (for instance boundaries) are visible and form prominent elements in the present environment.
<i>Legibility (cont.)</i>			Partial	Evidence relating to previous character types is visible within the present environment but is, on the whole, discontinuous.
			Fragmentary	Very little remains visible; intelligible only through detailed study.
			Invisible	Evidence relating to previous character types is not visible.
Leisure Use	Dominant leisure use of the water body	Water Bodies	Bird Watching	
			Water Sports	
			Not Known	
On Site Processing	Indicates whether the polygon includes works for processing goods	Extractive	No	
			Yes	
			Not Recorded	
Pattern	Denotes layout regularity. Used for	Enclosed Land	Regular	A clear organisational structure

Attribute	Description	Recorded in (Broad Type)	Value	Scope Note
	discerning organisation.		Semi-Regular	A mostly regular structure with some limited irregularities
			Irregular	No regular structure
Private Open Space	The private space relating to each individual residence within the polygon	Residential	Back and Front Garden	
			Back Garden, Front Yard	
			Back Garden	
			Back and Front Yard	
			Back Yard	
<i>Private Open Space (cont.)</i>			Courtyard	
			Shared Yard	
			Farm Yard	
			No Private Space	
Public Spaces	Denotes whether or not there are publicly accessible areas included within the polygon	Residential	Car Parking	
			Community Centre	
			Gardens	
			Library	
			Playing Field	
			Play Park	
			Pubs and Clubs	
			Shopping Parade	

Attribute	Description	Recorded in (Broad Type)	Value	Scope Note
			No Public Spaces	
			Not Discernable	
Settlement Parcel Shapes	Denotes the general shapes formed by the layout of housing in residential areas	Residential	Cul-de-Sac	Modern housing estates with roads ending in a dead-end
			Geometric	Formally planned geometric shapes
			Grid-Iron Layout	A regular grid-based street pattern
			Long Narrow Plots Perpendicular To Road	Thin narrow plots
			Other Shapes	
Status		Commercial, Institutional, Industrial, Extractive	Active	
			Inactive	
			Re-used	
Water Body Sub Type		Water Bodies	Natural Open Water	
			Reservoir	

Table 6: Attributes

5.1.3 Historic Environment Character Types

The Historic Environment character types have also been arrived at following trials during the pilot phase. The finalised list tends towards generalisation and attempts to cover all foreseen types. However, it is expected that a few, unforeseen character types may be added over the life of the project. The Historic Environment character types are detailed in **Table 7** below.

Broad Types (Attributes Recorded)	Historic Environment Types	Description
Residential (Density Layout pattern Private open space Public space Legibility)	Burgage Plots	Long narrow plots aligned with roads and associated with settlement
	Elite Residence	Large country houses, usually associated with recreational land and concerned with the display of wealth and status, etc
	Vernacular Cottages	Small-scale housing built in local materials & styles
	Estate Village	An estate built by a land owner to a clear overall design
	Farm Complex	A complex of farm buildings including house, barns, sheds, etc.
	Back-To-Back / Courtyard Houses	Early types of urban, industrial housing typically built with communal courtyards
	Terraced Housing	
	Villas/ Detached Housing	Large houses, generally built for the affluent middle classes from the 19th century onwards
	Semi-Detached Housing	Describes less affluent middle class housing, often in ribbon developments that do not conform to other categories
	Planned Estate (Social Housing)	Council or housing association estates built on a large scale to an overall design.
	Prefabs	Prefabricated housing
	High Rise Flats	Tower blocks and other high density blocks of flats
	Low Rise Flats	Flats with generally less than five floors.
	Private Housing Estate	Private housing estates built by speculative developers.
Enclosed Land (Field size)	Cropmark Field Systems	Prehistoric/Romano-British field systems, normally identified from aerial photographs.
	Crofts	

Broad Types (Attributes Recorded)	Historic Environment Types	Description
Pattern Boundary morphology Boundary type Boundary loss since 1850 Legibility)	Open Fields	Medieval open fields surrounding settlements. Farmed in individual strips.
	Strip Fields	Fields resulting from the enclosure of medieval open fields. Exhibit reverse-s curve boundaries
	Assarts	Fields enclosed piecemeal from woodland. Often with irregular boundaries.
	Piecemeal Enclosure	Irregular enclosure predating the main period of (parliamentary) enclosure in the 18 th / 19 th centuries
	Surveyed Enclosure (Parliamentary/ Private)	Fields enclosed as a result, mostly, of acts of parliament but also through private agreement. They exhibit a regular, grid-like pattern with ruler straight boundaries. The boundaries between fields are often very uniform
	Drained Wetlands	
	Valley Floor Meadows	
	Agglomerated Fields	Large modern fields. Generally dating to post-World War II. Normally a result of field boundary loss, either through deliberate removal of field boundaries or through lack of maintenance of field boundaries.
Unenclosed land (Elevation Legibility)	Commons and Greens	
	Moorland	
Communications (Sub type Legibility)	Airport	
	Canal Lock Ladder System	
	Canal Wharf	
	Motorway & Trunk Road Junctions	
	Motorway Services	
	Ring Road	
	Viaduct/ Aqueduct	
	Transport Interchange (Inc. Bus Station and Park & Ride)	
	Train Station	

Broad Types (Attributes Recorded)	Historic Environment Types	Description
	Train Depot / Sidings	
	Bus Depot	
	Tram Depot	
	Car Park	
Commercial	Markets	
(Sub Type Status Building scale Legibility)	Retail Park	A series of large, shed-like shops built around a car park
	Shopping Centre	Large integrated covered complex, designed to house retail units
	Distribution Centre	
	Business Park	
	Offices	
	Warehousing	
	Commercial Core - Urban	Retail and business areas in the urban core
	Commercial Core - Suburban	Retail and business areas at a distance from the town centre.
Woodland	Ancient Woodland	Land that has had continuous woodland cover since at least 1600AD
(Woodland size Boundary morphology Boundary loss since 1850 Legibility)	Semi Natural Woodland	Can be defined as "a stand of trees made up of native species, of local provenance, which has not been planted".
	Wood Pasture	
	Wet Wood	e.g. carr, osier beds
	Spring Wood	Wood used for coppicing. Default to ancient woodland where fits both categories
	Plantation	
Industrial	Metal Trades (Heavy)	Steel making/ rolling, engineering
(Dominant sector Building scale Status)	Metal Trades (Light)	Edge tools, holloware, flatware & Sheffield plate manufacture, file making, stove grate works, nail makers, etc.
	Metal Trades - Support	Horn & bone hfters & cutters, etc.

Broad Types (Attributes Recorded)	Historic Environment Types	Description
Legibility)	Water Powered Site	A site powered by a waterwheel. Where a site can fit into more than one category, characterisation defaults to water power with the type of industry being recorded in dominant sector e.g. a cutlery works powered by a waterwheel will be characterised as a water powered site with a dominant sector of metal trades (light)
	Textile Trade	Including bleacheries
	Craft Industry	Small-scale weavers, framework knitters, etc.
	Glassworks	
	Potteries	
	Chemical	
	Tannery/ Abattoirs	
	Utilities	Includes electric, gas and water industries
	Other Industry	
Extractive (Product On-site processing Status Legibility)	Deep Shaft Coal Mine	
	Open Cast Coal Mine	
	Reclaimed Coal Mine	
	Annular Spoil Heap	
	Landfill	
	Quarry	
	Clay Pits/ Brickworks	
	Refractory Material Mine & Works	Including ganister and other fireclays
	Peat Extraction	
	Other Mineral Extraction & Processing	
Ornamental, Parkland & Recreational (Building scale Legibility)	Private Parkland	
	Public Park	
	Deer Park	
	Theme Park	
	Nature Reserve	

Broad Types (Attributes Recorded)	Historic Environment Types	Description
	Allotments	
	Playing Fields	
	Stadium	
	Golf Course	
	Inner City Farm	
	Zoo	
	Racecourse	
	Caravan Park/ Camp Site	
	Public Square	
Institutional (Sub type Status Building scale Legibility)	Religious (Worship)	
	Religious (Other)	
	Hospital Complex	
	Asylum	
	Nursing Home/ Almshouse	
	Workhouse	
	Prison	
	University/ College	
	School	
	Civil & Municipal Buildings	
	Municipal Depot	Includes tips and dumps
	Cemetery	
	Fortified Site	Includes prehistoric, Roman, Medieval and Post-Medieval fortified sites
	Barracks	
	Military Airfield	
Water Bodies (Sub type Leisure use Legibility)	Reservoirs	
	Lake	

Table 7: Historic Environment Character Types

5.2 Review, Analysis and Interpretation

This phase, which will turn the raw data of the characterisation process into readily accessible layers of interpreted information, has been split into two sub-phases; one focused directly on the interpretation of the information, (Analysis and Synthesis); one focused on the development of guidance for local authority decision makers (Management Strategies).

The Analysis and Synthesis stage has been designed to provide flexible analyses of the characterisation data, investigating the character types in terms of historic landscape processes, time-depth and in comparison with other landscape data. This stage will provide the basis for assessments of significance and for developing management strategies and frameworks for future research.

Key tasks of the Analysis and Synthesis stage will include:

- Producing thematic maps of the characterisation database. In the first instance, these will include thematic layers coded by: Broad Type; Character Type; Boundary Loss; Character Legibility; and Previous Broad Type at 100 year intervals between 1500 and 1700, then 50 year intervals to 1900 and every 20 years thereafter: Once complete these layers will be exported to form static display layers on the SYAS GIS system.
- Using the thematic maps, the project will define 'Character Areas' as a separate GIS layer. Made up of collections of polygons in a discrete geographical area that are inter-related, these character areas will allow the project officers to structure the findings and assist with developing Management Strategies and Dissemination phases. Character areas will generally be of such a scale that smaller nucleated settlements will be included within a larger area. However, the larger urban settlements will be treated as character areas in their own right. It is anticipated that the following list of settlements shall be treated in this way:
 - Barnsley
 - Bawtry
 - Conisbrough
 - Doncaster
 - Ecclesfield
 - Maltby
 - Penistone
 - Rotherham
 - Sheffield
 - Stocksbridge
 - Thorne
 - Tickhill
- Once character areas have been defined, they will act as the units for subsequent detailed analysis. For all character areas the project officers will examine:
 - The geological, topographical and hydrological context of each area

- The historical background of the area
 - The present state of archaeological knowledge as represented on the South Yorkshire SMR and associated records.
 - The area's present historic character, as defined by the component character types
 - Time slice maps of the character areas
 - For urban character areas, plan form analysis of the settlement
 - Current drivers of character change within the area
 - The archaeological potential of zones within the area – for both buried deposits and standing remains, including buildings
 - Opportunities for increasing and conserving the legibility of the historic characteristics of the area.
- A review and assessment of the sources and methods used will be undertaken, in order to identify any inconsistencies in the characterisation data and analyses. Gaps in knowledge that prevent a complete understanding of South Yorkshire's historic environment will be identified at this stage. This stage will involve a critical review of the sources used and those not consulted by the project due to various constraints.

The products of the Analysis and Synthesis Stage will be

- Enhanced data supplementing the main GIS characterisation, in the form of an assessment of the historical development, present condition, and significance of each Historic Character Area.
- A critical review and assessment of sources and methods used during the project, which will include a statement on areas or aspects that require further research. This further research would form the basis of future projects.

5.3 The Management Strategies Stage

The Management Strategies stage will review options for sustainable management of the historic environment that has been characterised and recommend appropriate management strategies both at a general regional level and specific to each character area.

Key tasks and products of the stage will include:

- A review of the range of existing management strategies relevant for historic landscapes & townscapes and the identification of potential management options
- Development of draft Strategies for each Character Area including: conservation of settlement character, standing buildings and buried archaeological remains; opportunities for enhancing understanding and appreciation of historic character and its contribution to sense of place; and defining options and recommendations for sustainable management – particularly on opportunities for incorporating and integrating the historic environment with regeneration and redevelopment initiatives
- Management Strategies will be discussed and developed in partnership with the four South Yorkshire authorities, English Heritage, regional development agencies, local special interest groups, etc.
- Management Strategies will be compiled for each local authority area

5.4 Reporting, Dissemination and Community Outreach

The project will take full advantage of electronic opportunities to disseminate results and will seek to ensure the greatest possible community access to its results. Initial public consultation during the pilot phase has identified a demand for accessible information from the project, preferably made available through the World Wide Web. For Sheffield a ready outlet will soon exist in the form of the council's forthcoming online corporate GIS. The possibility of making information available through this channel for the whole of South Yorkshire will be investigated, as will other opportunities for achieving and developing this form of outreach.

The project also aims to ensure that the characterisation is defining features recognisable to the public. During the pilot phase, the South Yorkshire Archaeology Day provided an opportunity to seek public opinion. The project will continue to use this opportunity and will seek out opportunities to present local results to other groups and at other events. Interest has

already been shown in the project by a number of local amenity and heritage societies.

Key tasks and products of the Dissemination stage will include:

- Presenting results to the public at appropriate stages during the project, for instance at the annual South Yorkshire Archaeology Day, and at meetings of local societies. This will inform decision making throughout the life of the project.
- Development and publication of interactive web pages that display: thematic maps of South Yorkshire's historic character; accessible narratives both visual and written, of the development of South Yorkshire's historic environment; a facility for the public to contribute feedback and opinion about the historic environment during the life of the project.
- Completing a full report of the project, containing a description of the project's methodology and conclusions, including full definitions of all character types, as well as a narrative synthesis of the results. Within the report there will be a synthesis of the analysis of each character area; and the management strategies formulated for them. The written report will be supported by thematic GIS data sets.
- Development of, and migration of data to, a simple end user interface for the characterisation database to be distributed to stakeholders as a Microsoft Access .mdb file, along with thematically mapped GIS layers in both MapInfo and Arcview formats.
- The full report will be disseminated to English Heritage and regional regeneration agencies. Each constituent authority will be provided with reports tailored to their individual area. These will contain both a summary of the overall character of that unitary authority area and a discussion of its relationship to the wider character of South Yorkshire, as well as containing the management strategies for the relevant character areas.
- The Management Strategies, developed in consultation with principle stakeholders, will be proposed as Supplementary Planning Guidance for the four local authorities, while the GIS layers and end user interface will be distributed to stakeholders.

5.5 Archiving and Maintenance of the Database

Throughout the life of the project, handling of the project archives will be a primary responsibility of the project officers. The following procedures for the management of this archive are being implemented:

- The primary characterisation database is held within the South Yorkshire Archaeology Services (SYAS) exeGesIS HBSMR system. This is backed up on a regular basis.
- Digital files generated from this database, such as thematic map templates and downloaded snapshots of data, are to be named and dated according to standardised procedures and kept in file folders

within the regularly backed-up SYAS group drive, which is part of the Sheffield City Council IT network.

- Digital image files are to be named and filed within the existing SYAS archive, with the file name incorporating the unique reference number of the primary HEC unit. The file should also contain metadata recording the date of image capture.
- Paper files relating to research undertaken by the project officers will be filed by the unique reference number of the principal character unit to which they relate.
- Diaries and notebooks relating to the project will be kept with the paper archive.
- Working thematic maps and interpretive materials generated by the project will be dated, and appropriately annotated before storage in the paper archive.
- Hard copies will be made of written reports generated by the project and kept with the paper archive.
- A full copy of the characterisation database and associated GIS layers is to be stored at the end of the project as a part of the project archive, as a 'baseline record' of the historic environment.

After the initial project, as funded by English Heritage, responsibility for the future maintenance of the project archive will pass to the permanent officers within the SYAS team. The primary HBSMR database will continue to be reviewed and updated as a part of the integrated Historic Environment Record maintained by the organisation, thus ensuring the duration of the live datasets. Any future large-scale reviews of Historic Environment Character will depend on the availability of future funding. Systems are already in place to review the condition of all digital data held within the SYAS group drive, with procedures in place for the migration of data to new file types and computer systems as the need arises.

This phase of the project will include investigation of funding sources that may be secured in order for SYAS to continue to support, review and update the characterisation, for both internal and external end users.

6 RESOURCES & PROGRAMMING

6.1 Personnel

The project will be managed by Dinah Saich of the South Yorkshire Archaeology Service, in liaison with, and monitored by, English Heritage. Day-to-day project work will be undertaken by the Historic Environment Characterisation Project Officers, Andrew Lines and Daniel Ratcliffe. The two officers will work closely together and share the responsibility of carrying out the project and ensuring its successful completion.

In addition to advice from the steering group and stakeholders group (see below), provision has been made for commissioning up to two specialist consultants. The consultants will be chosen for the breadth of their knowledge and experience of the historic environment of South Yorkshire. IT support will be provided in-house by Sheffield City Council and from exeGesIS, under an existing maintenance contract.

6.2 Steering group

The steering group was set up early in the pilot phase, to help steer the direction of the project. It will continue to meet throughout the project and particularly at key milestones. The group will consist of representatives from English Heritage Characterisation (Graham Fairclough, Roger Thomas), English Heritage Yorkshire Region (Keith Miller) and the South Yorkshire Archaeology Service project manager (Dinah Saich) and Project Officers (Andrew Lines, Daniel Ratcliffe).

6.3 Advisory group

A series of advisory group meetings were held during the pilot phase, with interested parties. These meetings will continue to be held at key points throughout the project. Planning, countryside and conservation officers from all four unitary authorities (Barnsley, Doncaster, Rotherham, Sheffield) were consulted. Members of the advisory group provide key feedback. The meetings also provide a mechanism for keeping end-users informed of the project's progress.

6.4 Stakeholder meetings

The project will be introduced to a wider group of interested experts and potential end-users at an early stage and be discussed mid-project and on completion. One aim of these meetings will be to tailor analysis and presentation to future user-needs. In order to get the most from this, in terms of input, advice etc., there will be meetings at the Analysis and Management strategy stages; a contingency for additional meetings will be allowed, if only of smaller specialist working groups.

6.5 Facilities and equipment

The South Yorkshire Archaeology Service/Sheffield City Council will provide office accommodation and administrative support for the Project. Funding from English Heritage for the pilot phase was used to obtain office equipment including computers, software and licenses. The main software and licenses required were MapInfo GIS and the exeGesIS SMR database.

The South Yorkshire Archaeology Service, under local authority licence, will supply the modern OS map base. Digital historic mapping will be supplied by English Heritage under license from Landmark. The majority of the mapping needs will be met by this though some enclosure maps and pre-OS maps will be need to be consulted.

6.6 Products

The project will have four main products:

- the interactive GIS (publicly accessible in the SMR, supplied to the four South Yorkshire Districts, etc. supplied on the web if possible);
- hard copy reports (including a description of the methodology, character types, narrative synthesis, analysis of the results of the characterisation) disseminated to stakeholders and publicly accessible in libraries, etc.
- management strategies and guidance, issued to stakeholders;
- publicity material, e.g. leaflets, web pages, etc.

6.7 Timetable

The project officers were in post by August 2004. The initial five months work consisted of a pilot study and set-up phase, as reported in **section 4**. The pilot phase has enabled detailed timings and costings to be projected for the main phase of the project. The main phase of the project will run from January 2005 until December 2007.

The project assumes a working year of 220 working days, allowing for annual leave, public holidays and sickness, etc. These allowances have been incorporated into the timetable for the main project.

A full breakdown of project tasks can be found in the Gantt chart, included as **Figure 14**. This will enable effective monitoring of the progress of the project, enabling milestones to be set. Any deviation from the project timetable can be quickly identified and appropriate action taken.

The main phase of the project has been divided into five stages:

Characterisation & Mapping: This stage is the main data collection stage and has been timetabled to last for 63 weeks. This is based on the rates calculated following the pilot study (see **section 4.3.4**). **Table 8** below, contains a detailed breakdown of this figure. The stage has been divided into eight tasks that correspond to defining polygons in the rural and urban areas of each of the four authorities. The adjusted figures for the characterisation and mapping of the rural areas equates to 1450 hectares per day. This is within the core estimate for mapping and digitisation as detailed within the national method review (Aldred

	Urban					Rural					Total	
	Hectares	% of S. Yorks.	Task Days ¹	Adjusted Days ²	Adjusted Weeks ³	Hectares	% of S. Yorks.	Task Days ¹	Adjusted Days ²	Adjusted Weeks ³	Hectares	% of S. Yorks.
Sheffield	12770	8	83	98	19	23830	15	11	13	3	36600	24
Barnsley	5000	3	32	38	7	27800	18	13	15	3	32800	21
Rotherham	6344	4	41	49	9	22216	14	10	12	4	28560	18
Doncaster	7259	5	47	56	11	49401	32	22	27	7	56660	37
Totals	31373	20	204	241	46	123247	80	56	66	17	154620	100

Table 8: Polygonisation Rates

1. The rates used to calculate the amount of days are 22 polygons/ day at an average of 7 ha/ urban polygon & 100 ha/ rural polygon.
2. Adjusted days is the minimum required task days adjusted for annual leave, sickness etc.
3. For benchmarking and monitoring purposes, the actual weeks required has been adjusted dependent on expected complexity.

& Fairclough, 2003:27). Figures for the mapping and digitisation of urban areas are currently unavailable, as this is a relatively new methodological approach.

Review, Analysis & Interpretation: This stage includes the main analysis of the data. Based on a rapid appraisal of the results of the pilot study, 37 weeks have been allowed for the relevant tasks.

Management Strategies: This stage includes reviewing current strategies and discussing the draft strategies formulated with relevant interest groups. The timescale will allow feedback from these discussions to be incorporated into the management strategies and the final report. This stage will last for 22 weeks.

Reporting, Dissemination & Outreach: An allowance of 31 weeks has been made for this stage. Two tasks within this stage will be ongoing throughout the life of the project, but - for simplicity's sake - have been included at this point in the Gantt Chart to provide an accurate representation of the time needed. An allowance of five weeks has been made for talks and lectures, attendance at local history fairs, at archaeology days, etc. This will allow the project officers to take the results out into the community and seek feedback during the project. A web page for the project is already live. It is envisaged that the web page will become more interactive as the project progresses.

Archiving: An allowance of one week has been made at the end of the project, to consolidate the archive.

6.8 Health and Safety

The Project Officers will be employees of Sheffield City Council and will be covered by the council's own Corporate Health & Safety Policy. Copies, if required, are available from the council offices.

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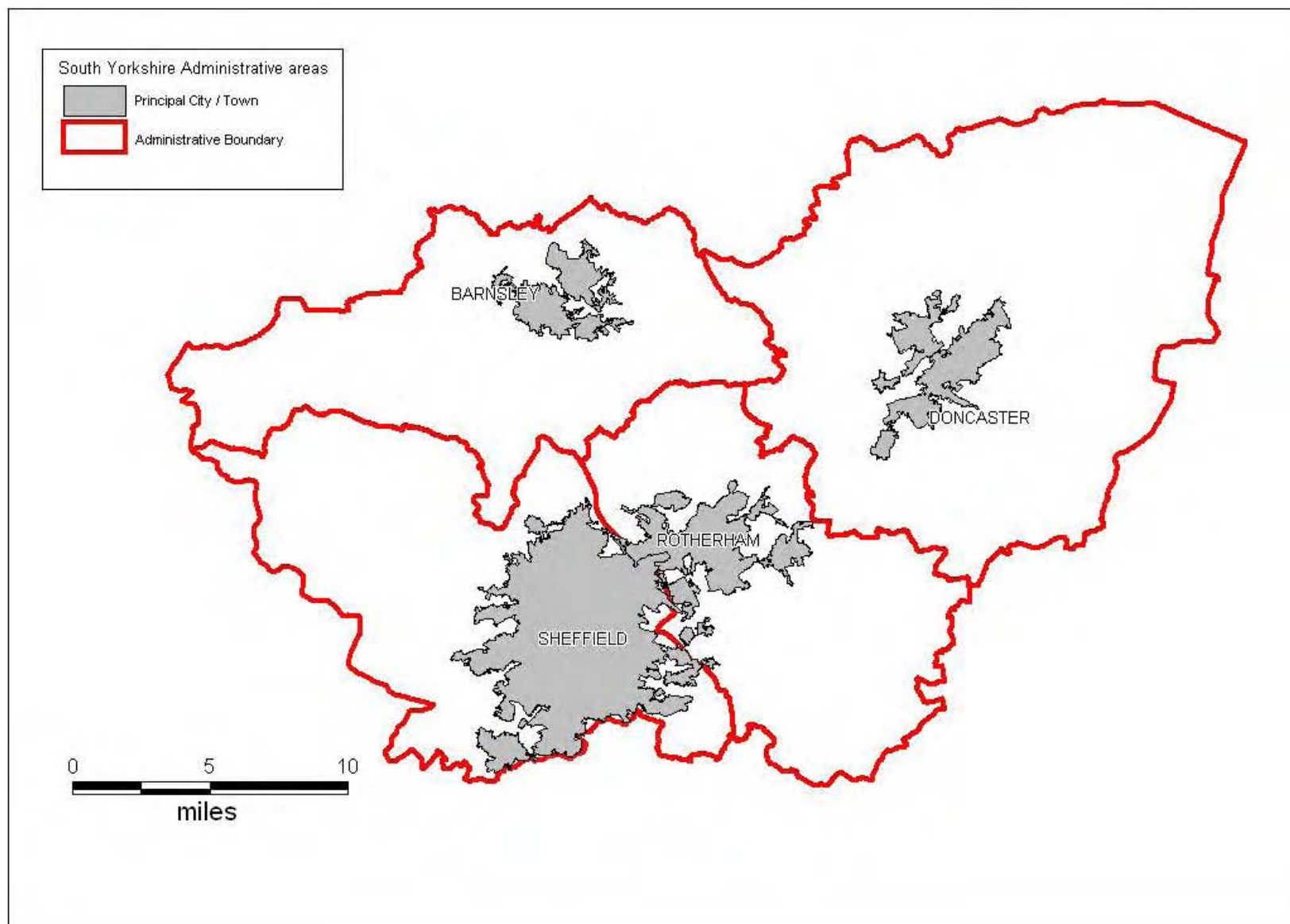
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South Yorkshire Historic Environment Characterisation Project

Figure 1

South Yorkshire Authority
Areas



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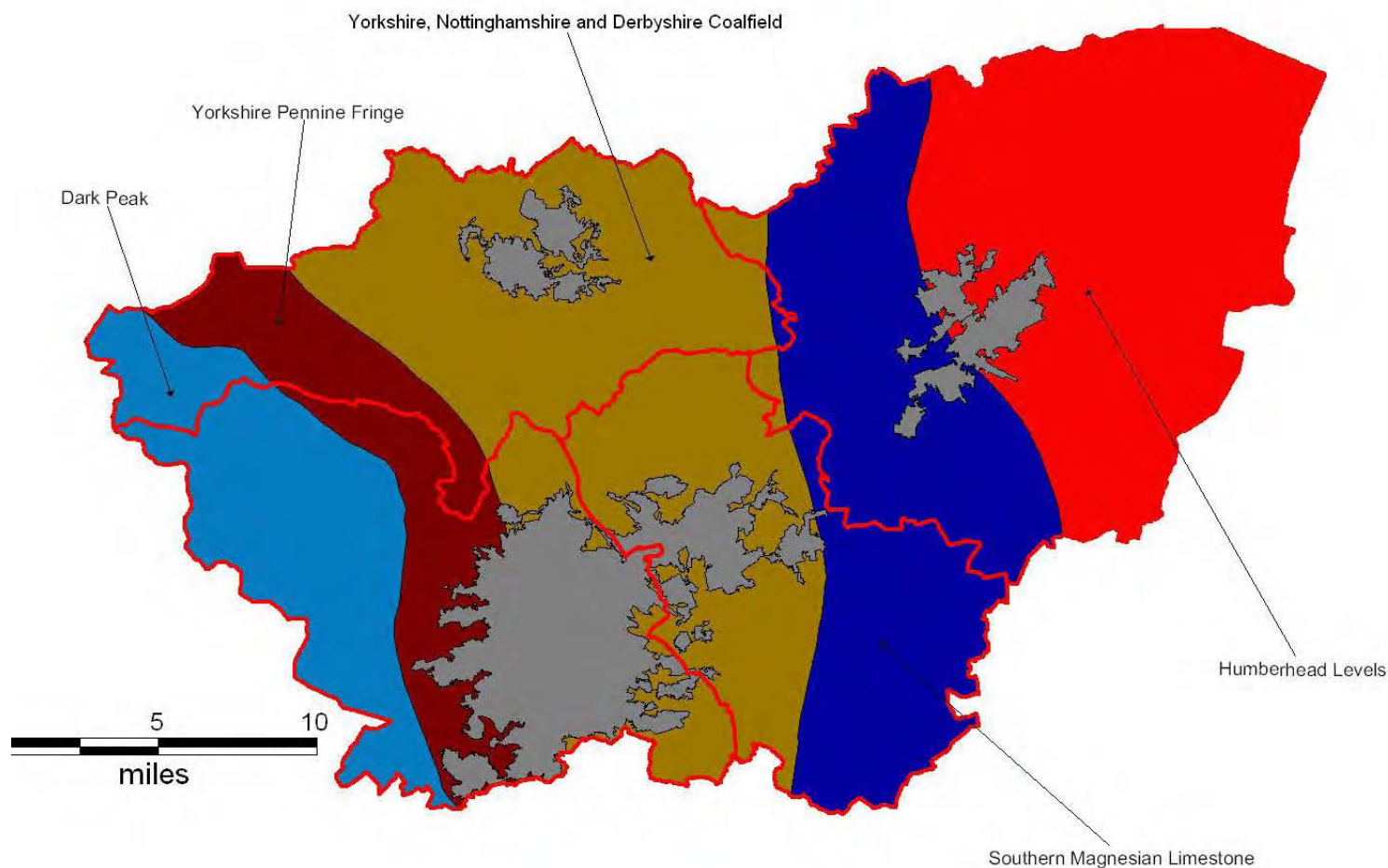


ENGLISH HERITAGE

South Yorkshire Historic Environment Characterisation Project

Figure 2

South Yorkshire Authority
Areas with Countryside
Character Areas



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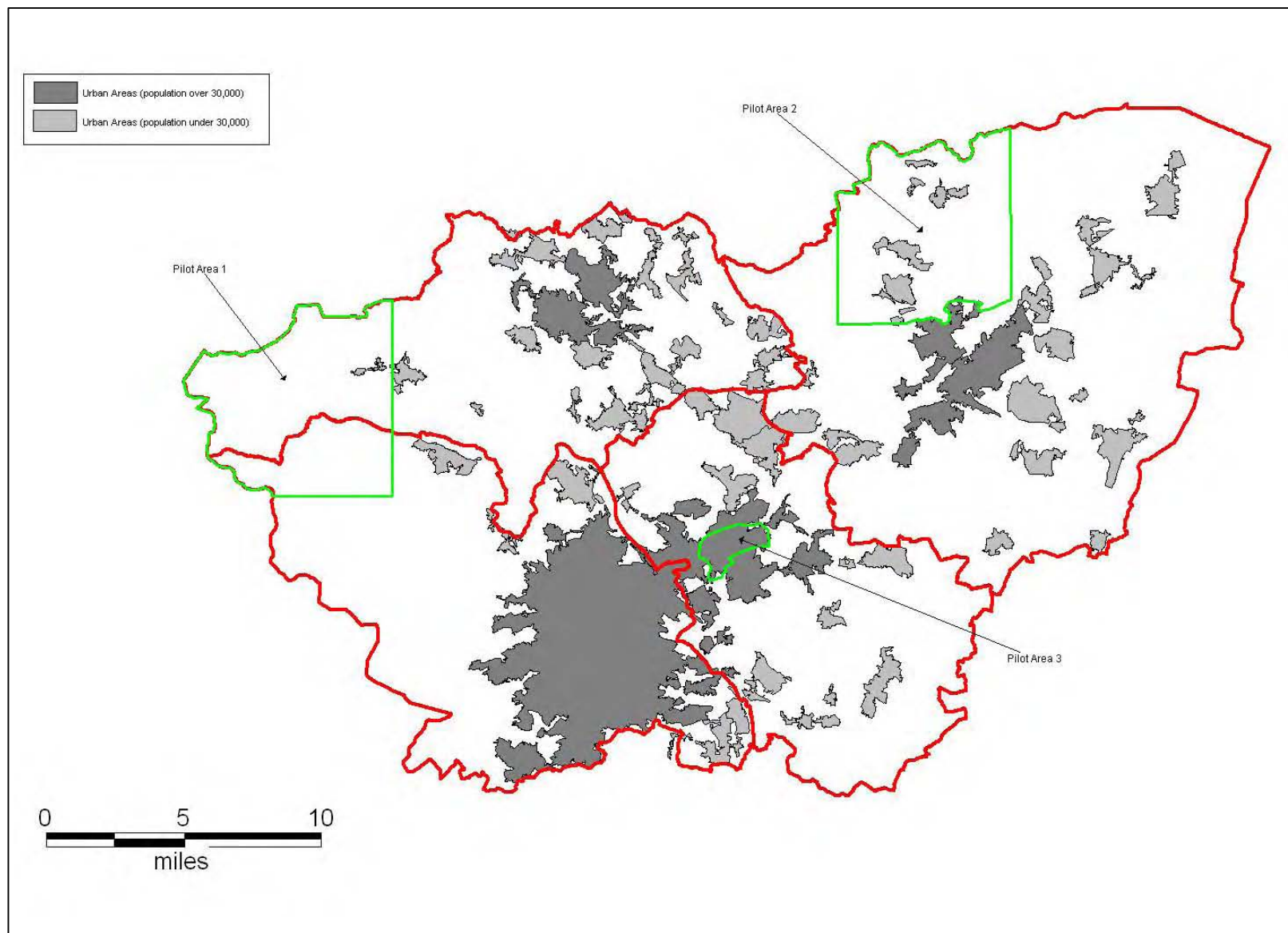


South Yorkshire Historic Environment Characterisation Project

Figure 3

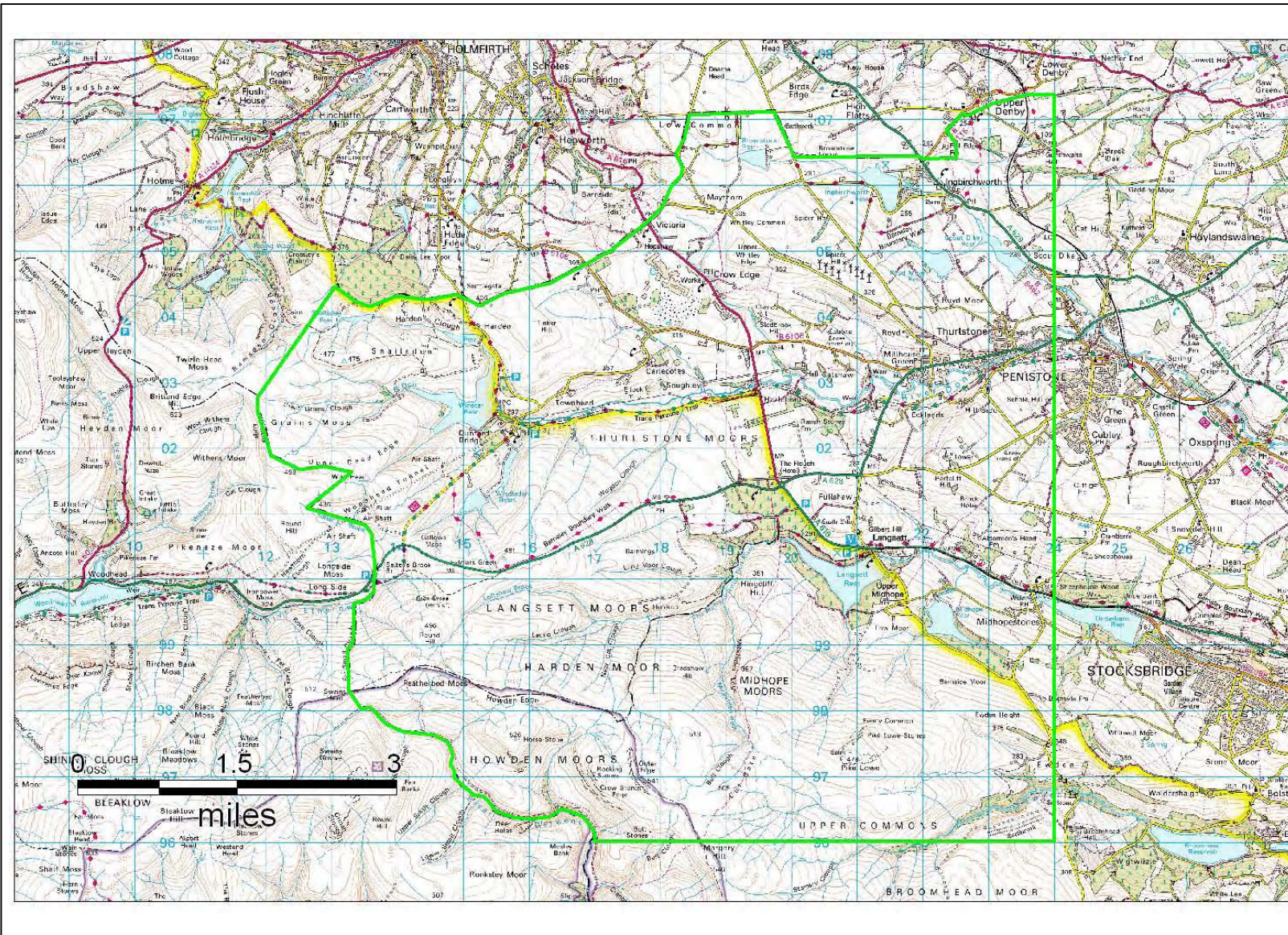
Pilot Areas (Green Outlines)

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Pilot Area 1 (Green Outline)

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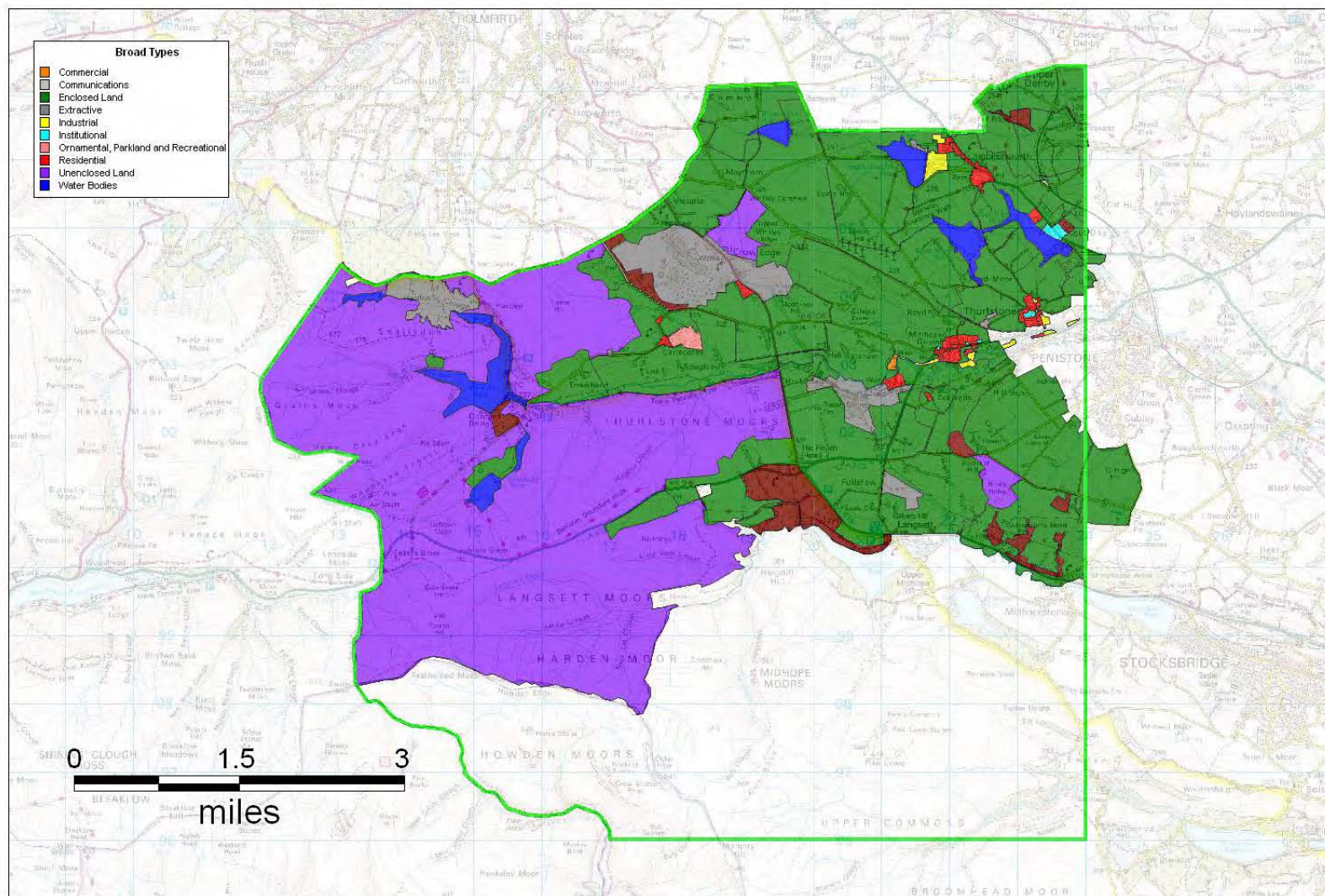


South Yorkshire Historic Environment Characterisation Project

Figure 5

Area 1 by Broad Type

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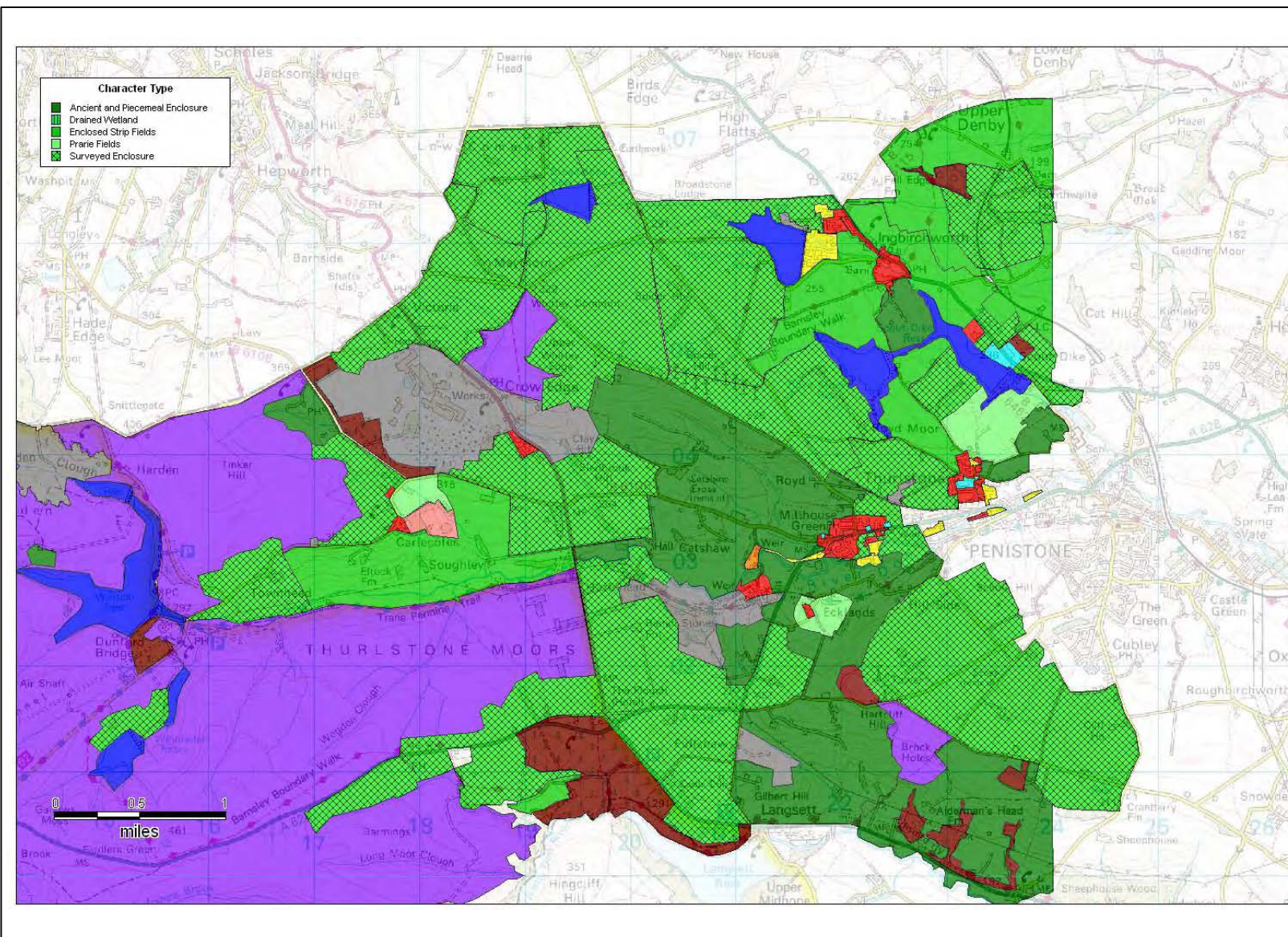


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Figure 6

Enclosed Land Character
Types in Pilot Area 1

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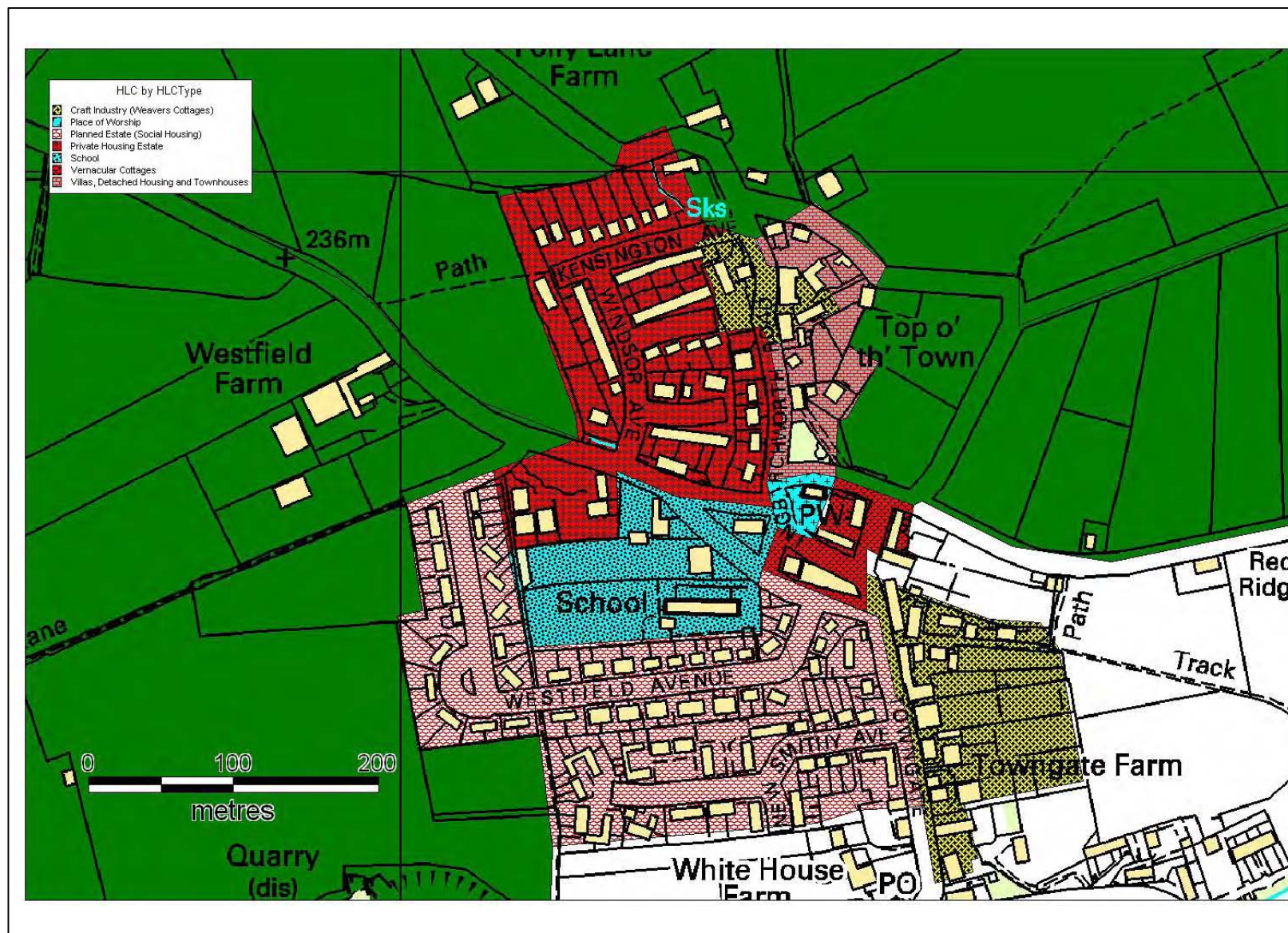


South Yorkshire Historic Environment Characterisation Project

Figure 7

Urban Character Types in
Thurlstone (pilot area 1)

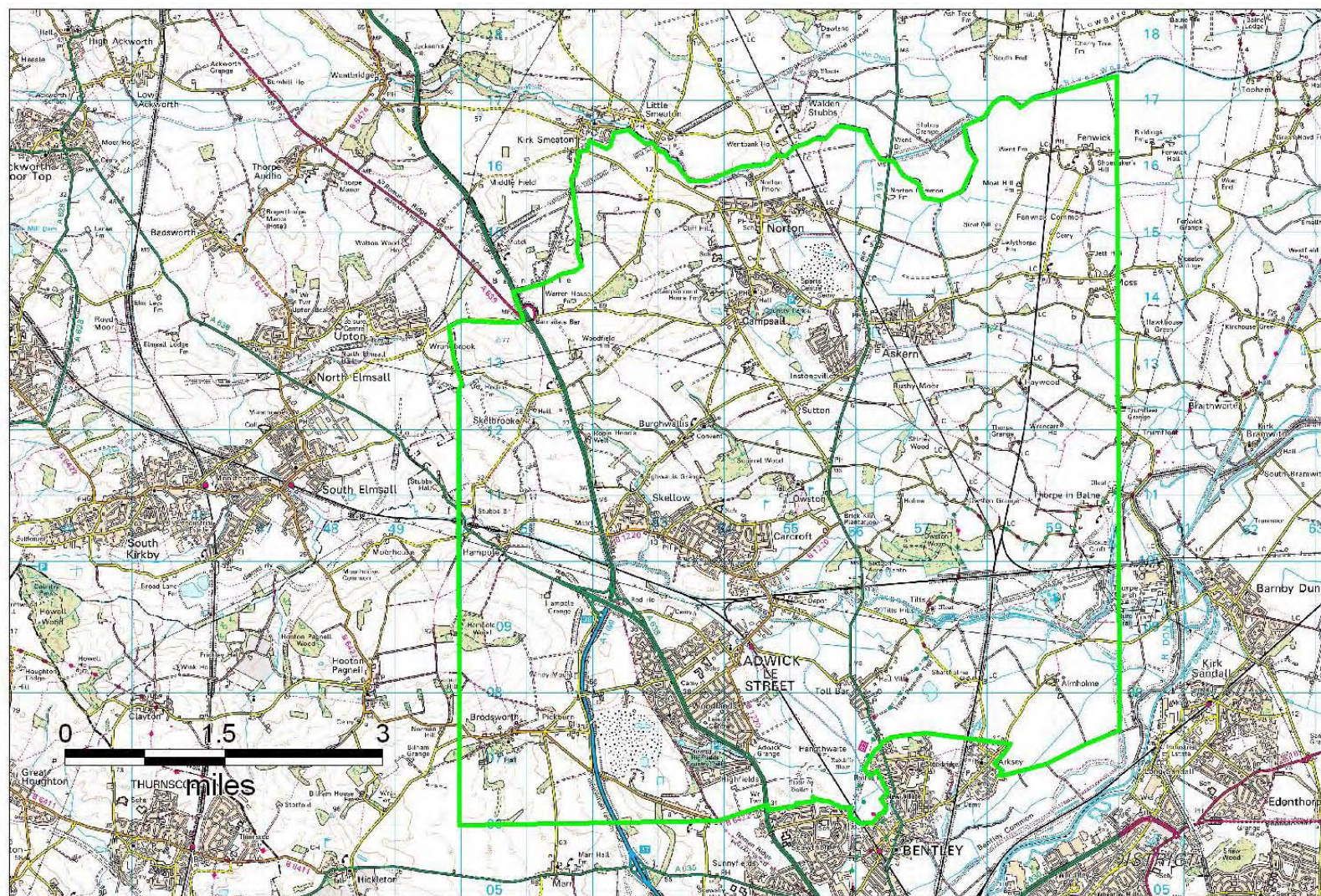
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Figure 8

Pilot Area 2 (Green Outline)



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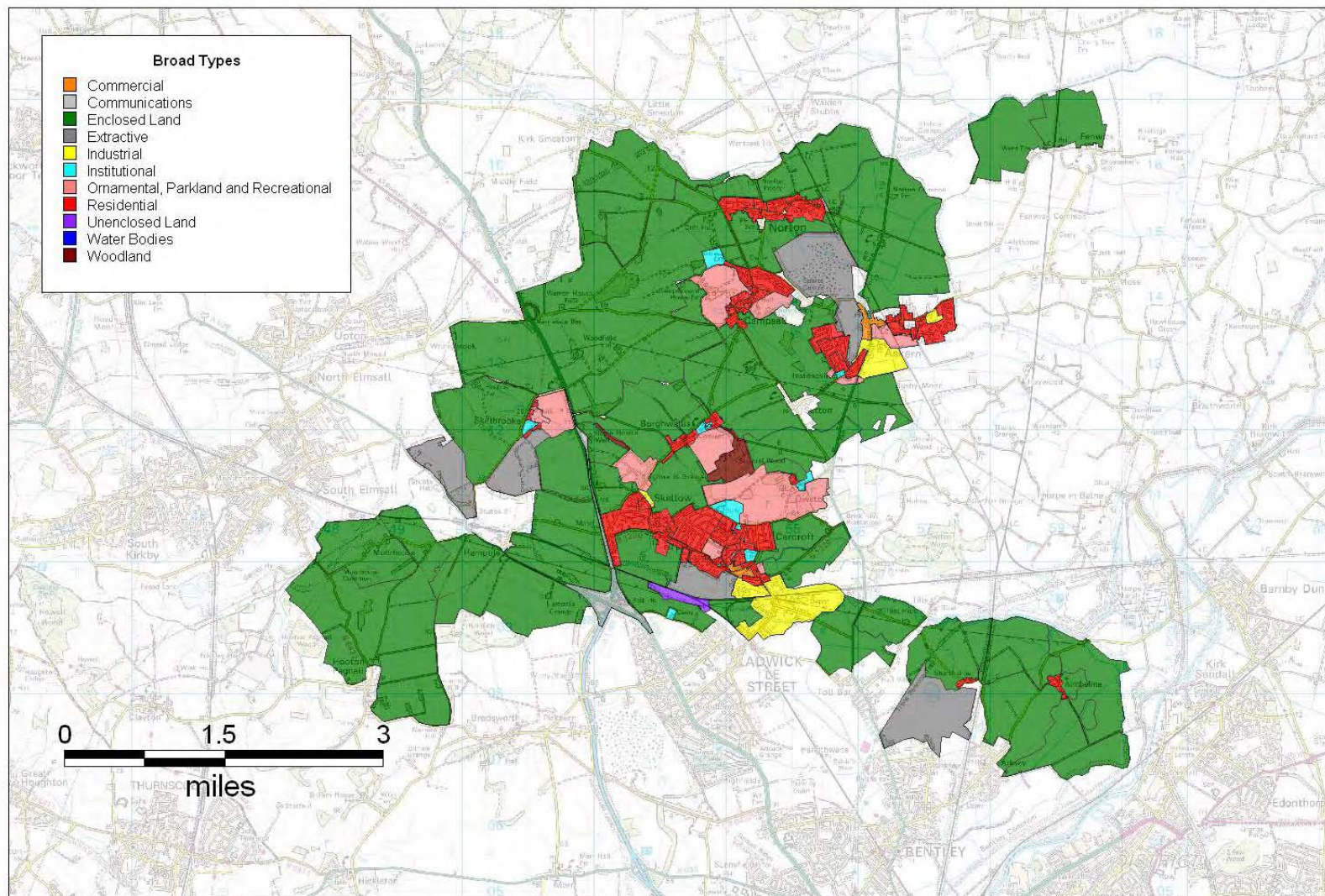


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South Yorkshire Historic Environment Characterisation Project

Figure 9

Area 2 by Broad Type



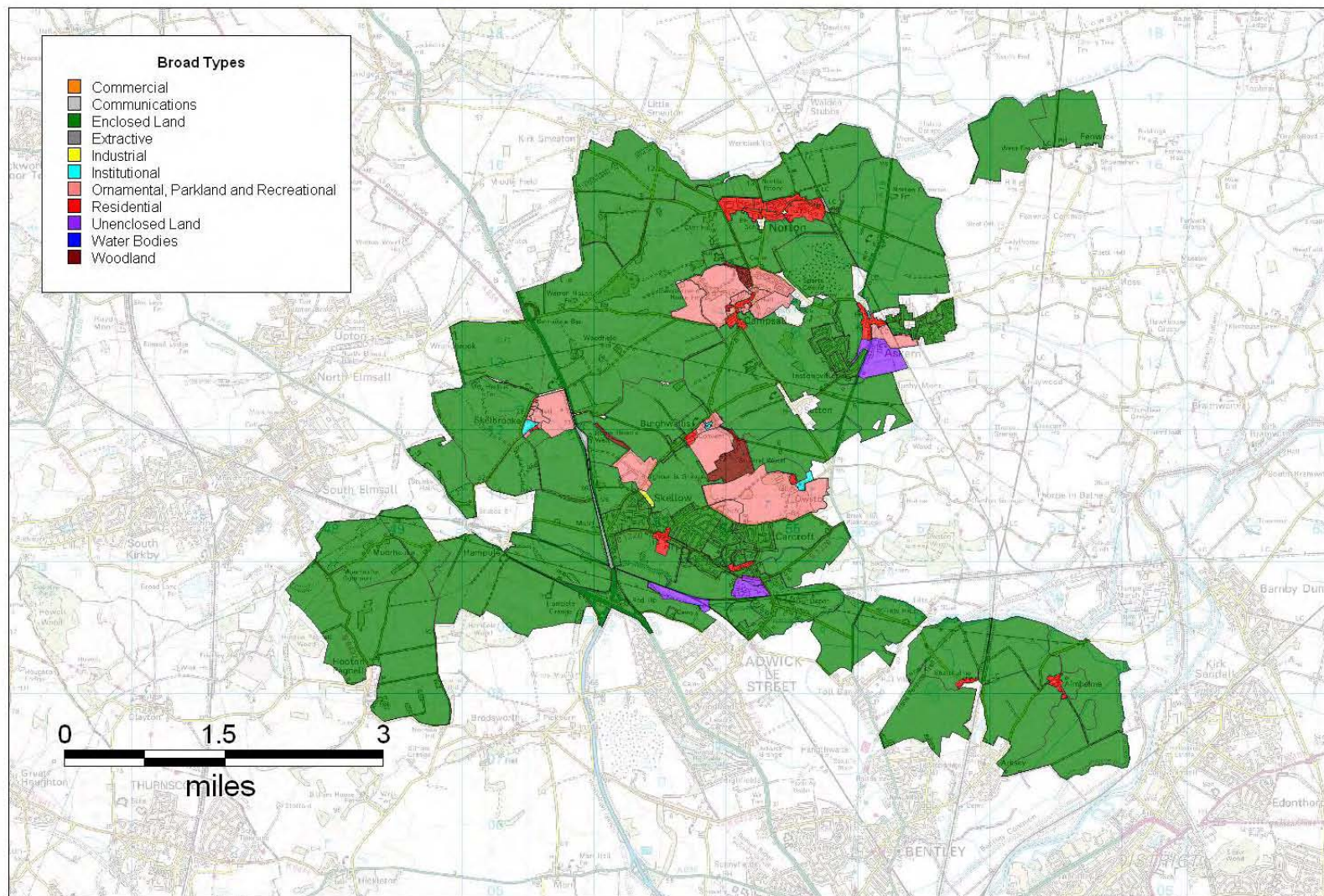
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South Yorkshire Historic Environment Characterisation Project

Figure10

Pilot Area 2 Broad Types

1851 Timeslice



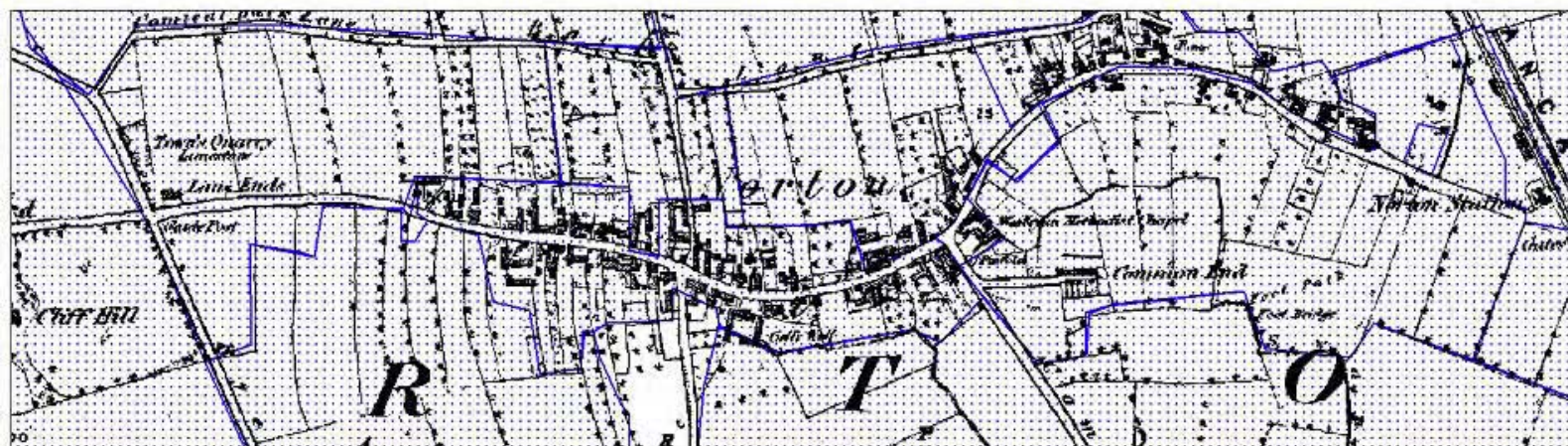
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South Yorkshire Historic Environment Characterisation Project

Figure 11

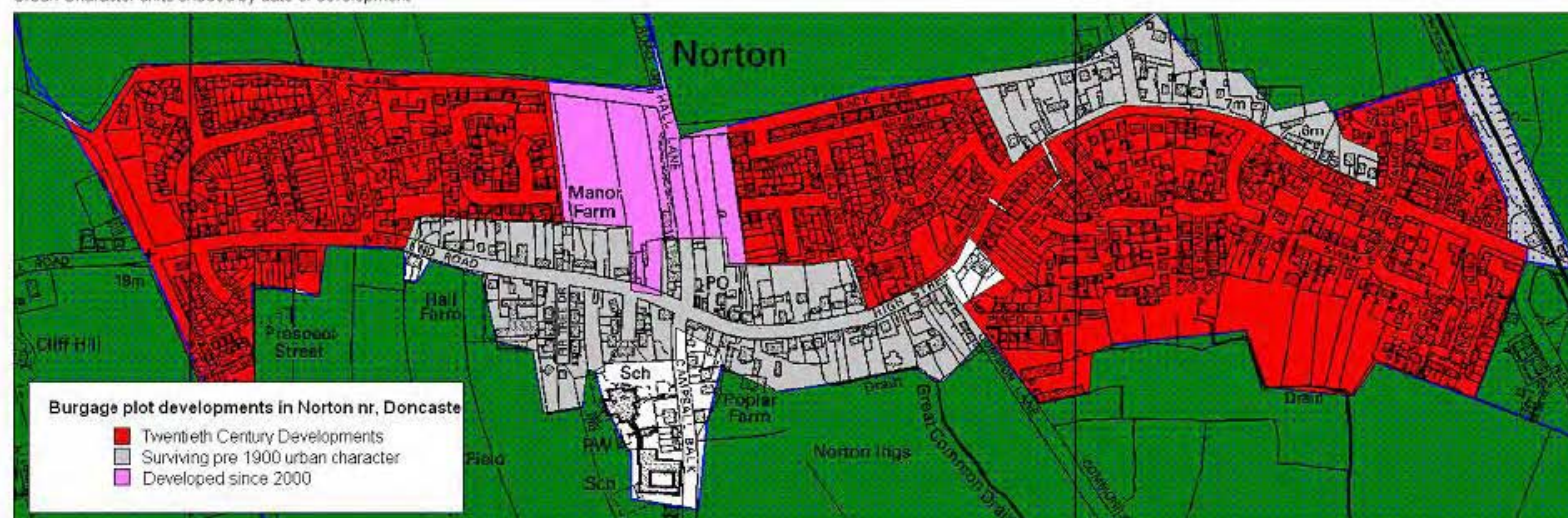
Norton Village (from pilot
area 2)

20th century development
pressures on Burgage Plots



First Edition OS six inch to the mile series 1851
(not to scale)

Urban Character units shaded by date of development



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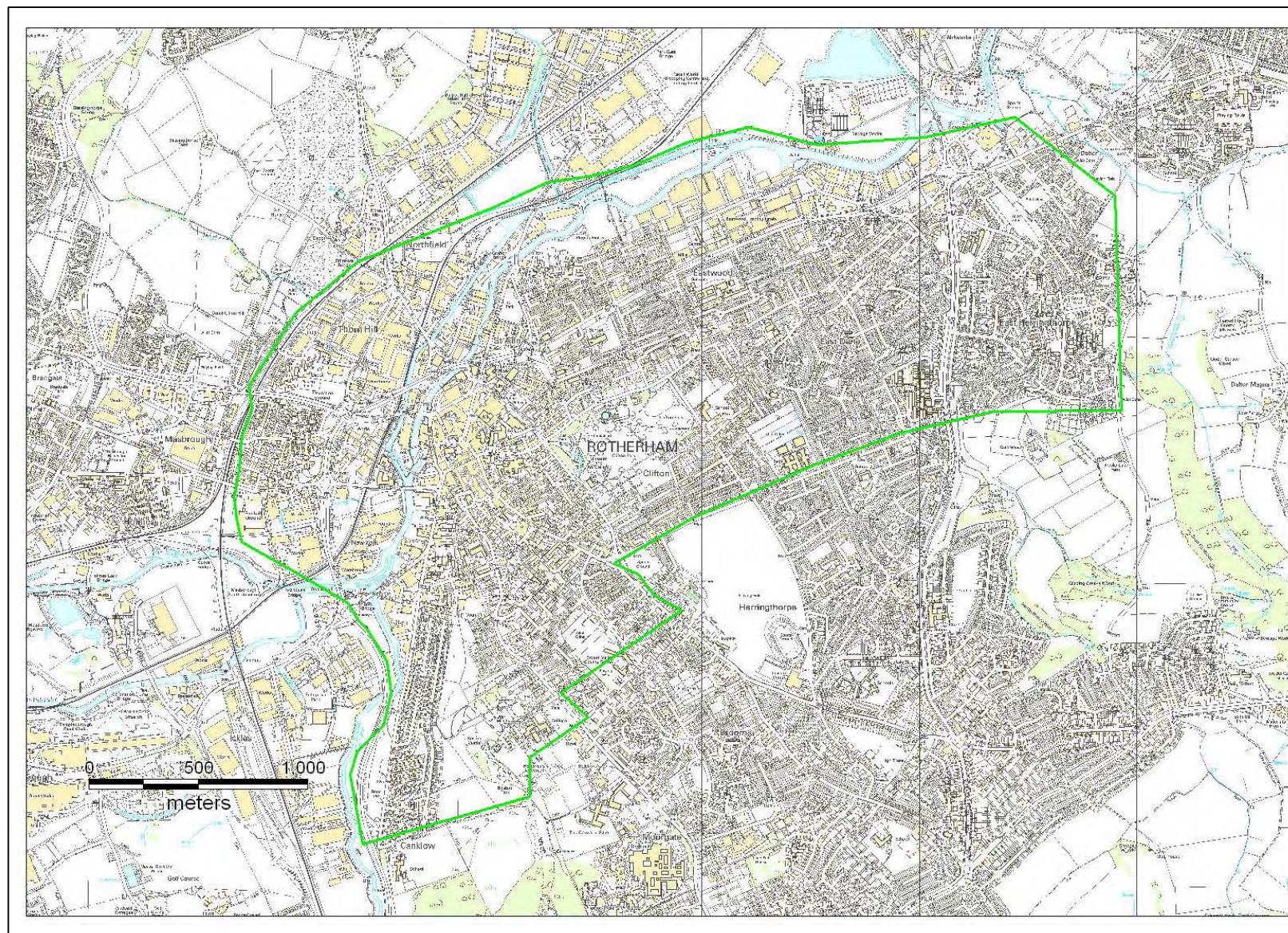


South Yorkshire Historic Environment Characterisation Project

Figure 12

Pilot Area 3
Rotherham Town Centre

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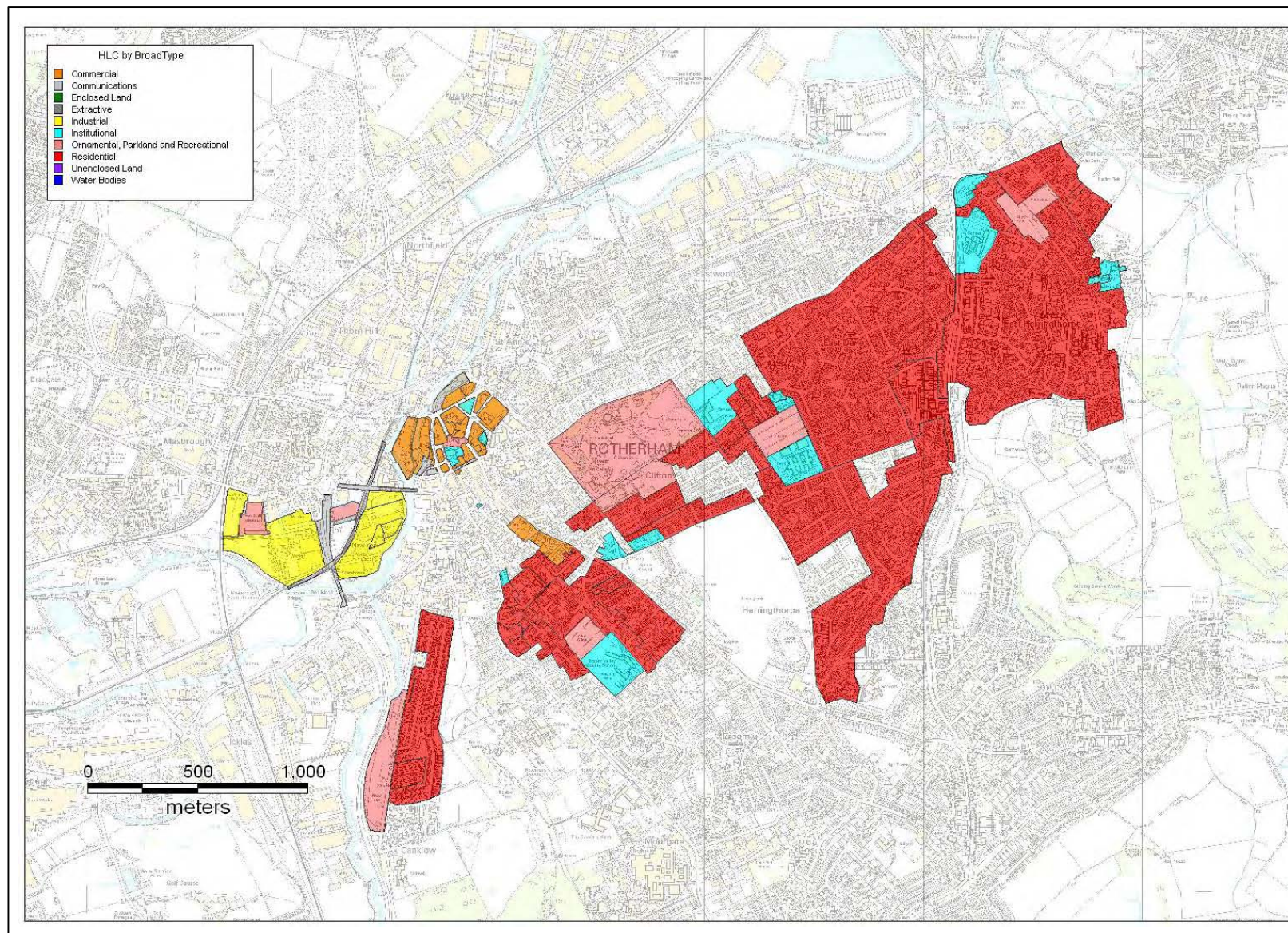


South Yorkshire Historic Environment Characterisation Project

Figure 13

Area 3 Pilot
Rotherham Town Centre
Shaded by Broad Type

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South Yorkshire Historic Environment Characterisation Project

Figure 14

Historic Environment
Characterisation Project
Gantt Chart

