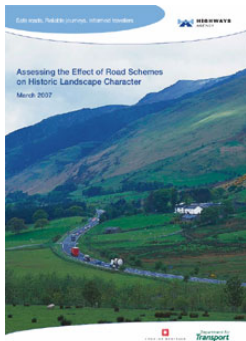




Historic England

Assessing the Effect of Road Schemes on Historic Landscape Character



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Although this document refers to English Heritage, it is still the Commission's current advice and guidance and will in due course be re-branded as Historic England.

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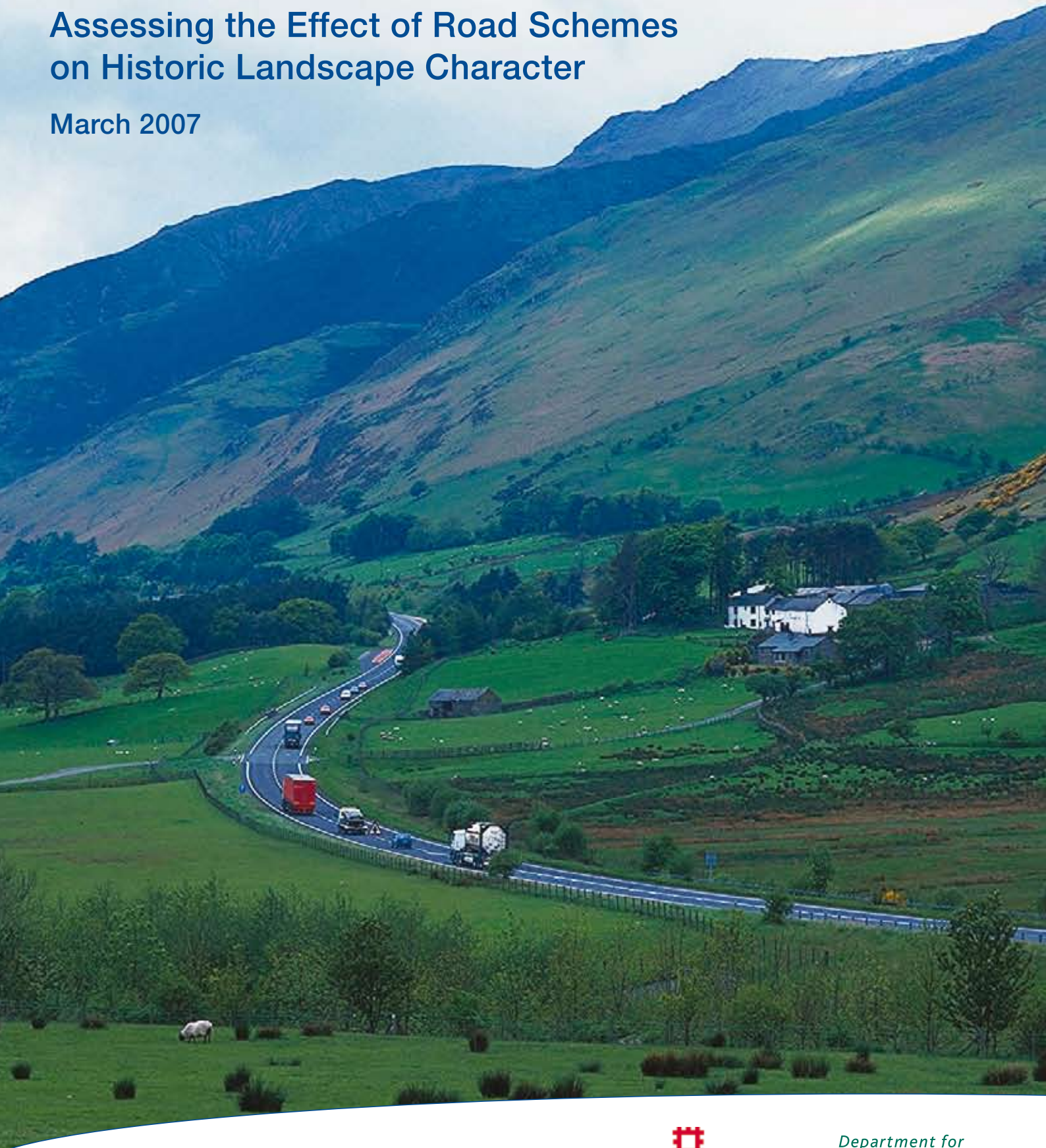
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Assessing the Effect of Road Schemes on Historic Landscape Character

March 2007





Preface

Preface

The Highways Agency (HA) is committed to ensuring that its activities conform to the environmental requirements of international conventions signed up to by the government, relevant UK legislation and government environmental policies.

The HA's commitment to minimising impact and enhancing historic landscapes is set out in the Highways Agency Environmental Strategic Plan 'Towards a Balance With Nature' (1999) which includes a commitment "to ensure that in planning and resourcing of trunk road projects there is an appropriate response to any adverse effects on the historic environment and that the historic fabric of our landscape is respected". Environmental impact assessment regulations are translated into guidance in the HA's Design Manual for Roads and Bridges Volume 11 (DMRB). The Cultural Heritage chapter of DMRB, recently revised, identifies historic landscape as one of three sub-topics within the cultural heritage topic, the other two being archaeological remains and historic buildings.

The assessment and management of historic landscape character is a relatively new approach in the sphere of development and spatial planning and is still an evolving discipline. It is a method that has great potential for contributing to the better design, construction and operation of the trunk road network. The DMRB advice on historic landscape impacts is necessarily couched in general terms, and it is considered that complementary and practical guidance will be helpful for road designers, environmental practitioners and contractors. The advice contained in this supplementary guidance document is not intended to be prescriptive, and any such attempt would rapidly become out-dated. It is intended to assist in the preparation of environmental assessments of the changes that will be made by road schemes to historic landscape character by identifying principles and emerging best practice. These include their definition, the role of historic landscape character, baseline data sources and collection, historic landscape analysis, assessing sensitivity and magnitude of change, outlining mitigation strategies and finally assessing the significance of effect.

This supplementary guidance document has been prepared in consultation with, and with the support of, the statutory consultees in all the UK administrations, as well as benefiting from discussions with and comments from a Consultative Group, in particular English Heritage (EH), the Landscape Institute (LI), the Institute of Field Archaeologists (IFA) and the Council for British Archaeology (CBA).

The Institute of Field Archaeologists is very pleased to have been involved with and able to assist in the development of this new guidance. The IFA welcomes the Highways Agency's commitment to innovation and the application of professional practice to this area of strategic planning. The IFA particularly welcomes the multidisciplinary approach to cultural heritage analysis in areas of archaeological remains, historic landscapes and historic buildings, the constituents of historic landscape character. These are areas in which our membership has a wide ranging expertise and a long involvement in the development of professional practice. This guidance document reflects the IFA's wider engagement with the processes of environmental impact assessments and the Institute's concern to develop appropriate professional methodologies in all areas of contemporary heritage practice.

The Highways Agency is pleased to be working with English Heritage at the forefront of establishing such robust applications for historic landscape assessment methodologies. In particular, we commend the emphasis in the supplementary guidance document on assessing the scale, nature and context of change to landscape character at an early stage of road planning. The document is also noteworthy and timely for being set within the philosophy of the European Landscape Convention, whose forward-looking approach to landscape planning provides a sound framework for the new procedures set out in this document.

English Heritage is very pleased to have been able to work with the Highways Agency in the production of this new guidance. English Heritage is committed to helping to achieve the sustainable management of change in ways that enable future generations to enjoy their heritage as part of sustainable quality of life. Landscape characterisation in particular is key to English Heritage's concern with the management of change, especially as its national programme of creating historic landscape character GIS databases in local authorities begins to approach full national coverage.



Highways Agency

English Heritage





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Appendix 1



1.0 Introduction

1.1 Background

1.1.1 Publications such as the UK Government's "The Historic Environment: A Force for Our Future" (Department for Culture, Media and Sport 2001) highlight the contribution that cultural heritage and the overall historic environment context can make to the value of people's surroundings. It emphasises the importance of considering development proposals not just in relation to constraints on designation-led sites, such as historic buildings, archaeological sites and monuments, but in relation to the ubiquitous historic character of our towns and landscapes (see Box 1.1). The Government's Planning Policy Guidance on Planning and the Historic Environment (PPG15) emphasises the value of the wider **historic landscape** and the need for its qualities to be taken into account in designing new transport related activities.

Box 1.1 The Historic Environment: A Force for Our Future

"...the historic environment is more than just a matter of material remains. It is central to how we see ourselves and our identity as individuals, communities and as a nation. It is a physical record of what our country is, how it came to be, its successes and failures. It is a collective memory, containing an infinity of stories, some ancient, some recent; stories written in stone, brick, wood, glass, steel; stories inscribed in the field patterns, hedgerows, designed landscapes and other features of the countryside. England's history is an accumulation of movement and arrivals, new stories attaching themselves to old. Urban and rural landscapes reflect this layering of experience and develop their own distinct characteristics".

(Department for Culture, Media and Sport 2001,

http://www.culture.gov.uk/reference_library/Publications/archive_2001/his_force_future.htm)

"Suitable approaches to the identification of the **components** and character of the wider **historic landscape** are being refined by English Heritage through the programme of **Historic Landscape Characterisation (HLC)** ... The whole of the landscape, to varying degrees and in different ways, is an archaeological and historic artefact, the product of complex historic processes and past land use. It is also a crucial and defining aspect of biodiversity, to the enhancement of which the government is committed. Much of its value lies in its complexity, regional diversity and local **distinctiveness** ..." (Extracts from Paragraph 6.43 of Department for Communities and Local Government Circular 01/2007 http://www.culture.gov.uk/NR/rdonlyres/FE20785A-705A-4F60-A5DE-51EA17B39585/0/hrp_planningcircular.pdf)



Figure 1.1 Valley-side woodlands and shelterbelts at Allendale. © Highways Agency.

1.1.2 Local Authorities, English Heritage, Cadw, Historic Scotland and others are engaged in research into **historic landscapes** to develop **Historic Landscape Characterisation (HLC)** datasets (Historic Land-use Assessment in Scotland) as a tool to inform planners, developers, researchers, consultants and decision makers of the particular sensitivities and capacities for change inherent in **historic landscape character types** nationwide (see Box 1.2 for a summary of work in the UK). This advice includes methods and examples drawn from a rapidly evolving field of work, and is proposed as guidance in the current situation, in the knowledge that some of its suggestions may be superseded as further experience and insights are developed.

Q What is historic landscape?

The definition of **historic landscape** used in this guidance is derived from the European Landscape Convention (Council of Europe 2000, which came into force in the UK in March 2007): “*landscape is an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors*”. The Convention states (Article 2 – Scope) that it covers natural, rural, urban and peri-urban areas. It includes land, inland water and marine areas. It concerns landscapes that might be considered outstanding as well as everyday or degraded landscapes. **Historic landscape** is defined both by people’s perceptions of the evidence of past human activities in the present landscape and the places where those activities can be understood in the landscape today. This definition highlights the role of perception and emphasises the rich cultural dimension implanted in landscape character by several millennia of human actions. The Convention’s aspirations are to help create high quality landscapes for the future; their historic character will be an important part of that quality.

Box 1.2 UK regional frameworks for HLC

In England, the **Historic Landscape Characterisation** programme is carried out by English Heritage in partnership with local government at county, unitary authority and National Park level (<http://www.english-heritage.org.uk/characterisation>).

In Scotland, **Historic Land-use Assessment** is a joint project undertaken by Historic Scotland and the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS) (<http://iura.rcahms.gov.uk/HLA/start.jsp>).

Both these programmes are based upon an understanding of the continuity and change that have contributed to the present day landscape.

The non-statutory Register of Landscapes of Historic Interest in Wales, published in January 1998, includes thirty-six areas of ‘outstanding’ interest and twenty-two areas of ‘special’ interest. The two volumes of the Register were published by Cadw, the Countryside Council for Wales (CCW) and the International Council on Monuments and Sites (ICOMOS) in 1998 and 2001. The Welsh Archaeological Trusts are preparing **HLC** descriptions for all the landscapes on the register and Cadw has published a ‘Guide to Good Practice on the Use of the Registers’ in 2003 (<http://cadw.wales.gov.uk/default.asp?id=108>). Other parts of Wales are covered by CCW’s more broad brush LANDMAP initiative. See <http://landmap.ccw.gov.uk>

1.1.3 The Highways Agency (HA) is committed to minimising the adverse impact of its network on the environment. The HA's specific environmental objective is to respect the environment by mitigating the potentially adverse impact of roads, and taking opportunities to enhance the environment where possible. This is achieved through the process of environmental assessment which is described in Volume 11 of the Design Manual for Roads and Bridges (DMRB). <http://www.standardsforhighways.co.uk/dmrbl/index/htm>.

1.1.4 In response to government policy and the initiatives being promoted by local planning authorities and heritage agencies in the UK, the HA is including **Historic Landscape Assessment (HLA)** in the baseline data for environmental assessment of highways improvement projects to ensure that its strategic aims are fully met in respect to the **historic landscape**. DMRB Volume 11 Section 3 Part 2 Cultural Heritage includes a new sub-topic aimed at understanding how **historic landscapes** are affected by scheme proposals. This is expected to be published in August 2007, and in the meantime the guidance will be available as Interim Advice Note (IAN) 92/07, Annex 2 on the DMRB website.

1.1.5 The new sub-topic guidance will help ensure that **historic landscape** character and **historic landscape** value become key drivers in the process of scheme environmental assessment and -crucially- design, that road design reflects, where possible, inherited landscape character and that less welcome changes are minimised through the design of sympathetically located and managed highway infrastructure. It does this in compliance with the European Landscape Convention; indeed the present guidance is the first formal government guidance to be set in the framework of the Convention.

Q Why does the HA need to introduce a new sub-topic covering historic landscapes?

The **historic landscape** sub-topic, together with the archaeological remains sub-topic and the historic building sub-topic, comprise the cultural heritage topic in DMRB Volume 11. What distinguishes **historic landscape** from the other cultural heritage sub-topics is that while archaeological remains and historic buildings are concerned with objects, **historic landscape** is concerned with perception and character.

1.2 Scope of guidance note

1.2.1 This guidance note has been prepared to assist the HA, and those adopting HA assessment methods to carry out **HLA** for highways projects.



Figure 1.2 Irregular field patterns, narrow valleys and wooded cloughs at Holme Chapel. © Highways Agency.

1.2.2 **HLA** focuses on *managing change* to **historic landscape** character. It seeks to ensure that design choices are taken with a full awareness of the needs of a scheme to integrate with, and if possible enhance, the local **historic landscape** character.

1.2.3 This guidance note describes how and when specific work to undertake **HLA** should be carried out, what the various work stages may comprise and provides advice on appropriate methods demonstrated through illustrated case study material. The guidance is provided as a supplement to the published DMRB Volume 11 Cultural Heritage Annex 7 (Historic Landscape Sub-topic).

1.2.4 At the time of writing, formal **HLA** for development projects is in its infancy. Over the coming years experience in implementing advice in DMRB concerning **historic landscape** will no doubt add significantly to the current examples and therefore methods should not necessarily be limited to those presented here.

1.3 When should this guidance be implemented? Who should use it?

1.3.1 **HLA** guidance currently only applies to England, as it has been developed specifically to cater for the HA's requirements. However, relevant agencies in Scotland, Wales and Northern Ireland may choose to use this guidance, either as a whole or in part. Consultants, contractors and managing agents (if appropriate) should consult with the overseeing organisations in the devolved administrations of Wales, Scotland and Northern Ireland regarding the application of this advice.

1.3.2 The guidance is primarily aimed at consultants and contractors undertaking assessment work on new highways projects and during the course of managing the HA's network. It may also be useful to professionals conducting assessments in local authority highways teams and others.

1.4 An important note on terms

1.4.1 Throughout this document the terms **historic landscape** character, **Historic Landscape Characterisation (HLC)** and **Historic Landscape Assessment (HLA)** are used. **HLC** refers to the analytical process of defining character and when it is discussed, the acronym **HLC** is used. **Historic landscape** character is always expressed in full. **HLA** refers to **Historic Landscape Assessment** as defined in DMRB Volume 11 Cultural Heritage Annex 7 (Historic Landscape Sub-topic). It is important to note that the acronym **HLA** may also be found in the wider literature referring to Scotland's Historic Land-use Assessment which is similar in scope to England's **HLC** programme (see Box 1.2).

1.4.2 Key terminology is highlighted in red font and explained more fully in the glossary (see Chapter 10).

1.5 Landscape character and HLA

1.5.1 **HLA** and **landscape character assessment (LCA)** have many similarities, particularly in that they both interpret the present landscape through maps and observations, usually managed within a **geographic information system (GIS)**. To avoid confusion between the two studies an important distinction needs to be highlighted.

1.5.2 **HLA**'s focus is mainly on **historic landscape character types** rather than discrete character areas that are the unit of assessment in **LCA** (Fairclough and Macinnes 2003). Additionally, the driving factor in establishing **historic landscape** character types is to gain an understanding of **time-depth**. **Time-depth** is concerned with the human perspective and the visible results of human activity as well as the natural processes that drive **LCA**. A proper understanding of **time-depth** provides the fuller analysis of the historical dimension of the current landscape that can be used to enrich both the Cultural Heritage and Landscape topics. (see Box 1.3 for a summary of principles that define **historic landscape** character and **HLA**).

Box 1.3 Key principles of HLC and HLA

The identification of **historic landscape** character follows several principles as embraced by the former Countryside Commission in Views from the Past (Countryside Commission, 1996). These principles are closely connected with the European Landscape Convention's definition of landscape and extended to apply to **historic landscape**. Fairclough and Macinnes 2003 (<http://www.snh.org.uk/www/sharinggoodpractice/CCI/cci/guidance/Topic/topic.htm#topic5>) provide a useful summary of the principles behind **historic landscape** character and **HLA**:

- A focus on present day landscape character as created by past action, not on the past landscapes themselves, reading today's landscape as material culture: the main object of study and protection by **HLC** is the present day landscape, as created by human action in the past and perception in the present
- A focus on history not geography: the most important characteristic of landscape for the purposes of **HLC** is the way that earlier landscapes and change can still be seen in the present-day landscape
- Area not point data: **HLC** based research and understanding is concerned with landscape not sites; it is not simply a process of mapping find-spots and monument distributions, or pointing out major buildings in the landscape
- All areas and aspects of the landscape, no matter how modern or ordinary, are treated as part of **historic landscape** character, not just special areas
- All the environment is strongly influenced by human activity: semi-natural and living features (woodland, land cover, hedges etc) are as much a part of **historic landscape** character as archaeological features. Biodiversity is similarly strongly influenced by human activity
- Landscape is a different view on the environment. Characterisation of landscape is a matter of interpretation not record, perception not facts. It is not the same as "environment" which is best seen as consisting of a set of physical entities and structures independent of perception
- Landscape is an idea not a thing, constructed by our minds and emotions from the combination and inter-relationship of physical objects.

To this can be added the following principles with regards to **HLA**:

- It must be undertaken by a suitably qualified historic environmental professional
- It is distinct from assessment of archaeological remains and historic buildings and their landscape **setting**
- It is distinct from LCA although the results of **HLA** should be used to inform, complement and enrich LCA descriptions and vice-versa
- All landscapes are **historic landscapes**. If required an **HLA** should be undertaken for the entire scheme
- For highways schemes, **HLA** largely relies on the analysis of appropriate datasets. It is not anticipated that a detailed re-evaluation of **historic landscape** character will be usually required, unless there is a lack of appropriate information and specific characterisation work is required (see Chapter 5), although many existing county **HLC** studies are broad-brush and may need refinement to meet requirements of the more detailed stages of road scheme decision making.

1.6 Structure of the guidance

The model presented in Figure 1.3 represents the key issues relating to assessment and other processes relating to **historic landscape**. Checkpoints at the end of each chapter provide a reminder of the key issues to consider.

1.6.1 Chapter 2 discusses interaction issues and provides advice on how the **historic landscape** sub-topic combines and interacts with other cultural heritage

and environmental topics as required by DMRB Volume 11; how **historic landscape** interacts with the Highways Agency Environmental Information System (EnvIS - IAN 84/07) and other datasets prepared for the HA; and provides a summary of current guidance on landscape which is equally applicable to **historic landscape** as provided in DMRB Volume 10 and 11. <http://www.standardsforhighways.co.uk/dmrbl/index/htm>

1.6.2 Chapter 3 describes how to undertake the **screening and scoping** stage and how and when this may lead to further assessment at subsequent project stages. The level of information needed to complete the **screening and scoping** is reviewed and advice on collecting baseline data is provided.

1.6.3 Chapter 4 provides advice on baseline data sources and collection.

1.6.4 Chapter 5 provides advice on **Historic Landscape Characterisation** and **historic landscape** analysis as may be required for **simple or detailed assessment**.

1.6.5 Chapter 6 provides guidance on undertaking the **historic landscape sensitivity** analysis (evaluation).

1.6.6 Chapter 7 describes a methodology for identifying, recording and reporting the magnitude of impacts (scale of change) on **historic landscapes**.

1.6.7 Chapter 8 covers design **mitigation** measures and the management of unavoidable change to **historic landscapes**.

1.6.8 Chapter 9 provides guidance on completing the significance of effects tables in Environmental Statements and WebTAG <http://webtag.org.uk> appraisals and how effects should be reported.

1.6.9 Chapter 10 provides a glossary of key terms and a list of further reading.

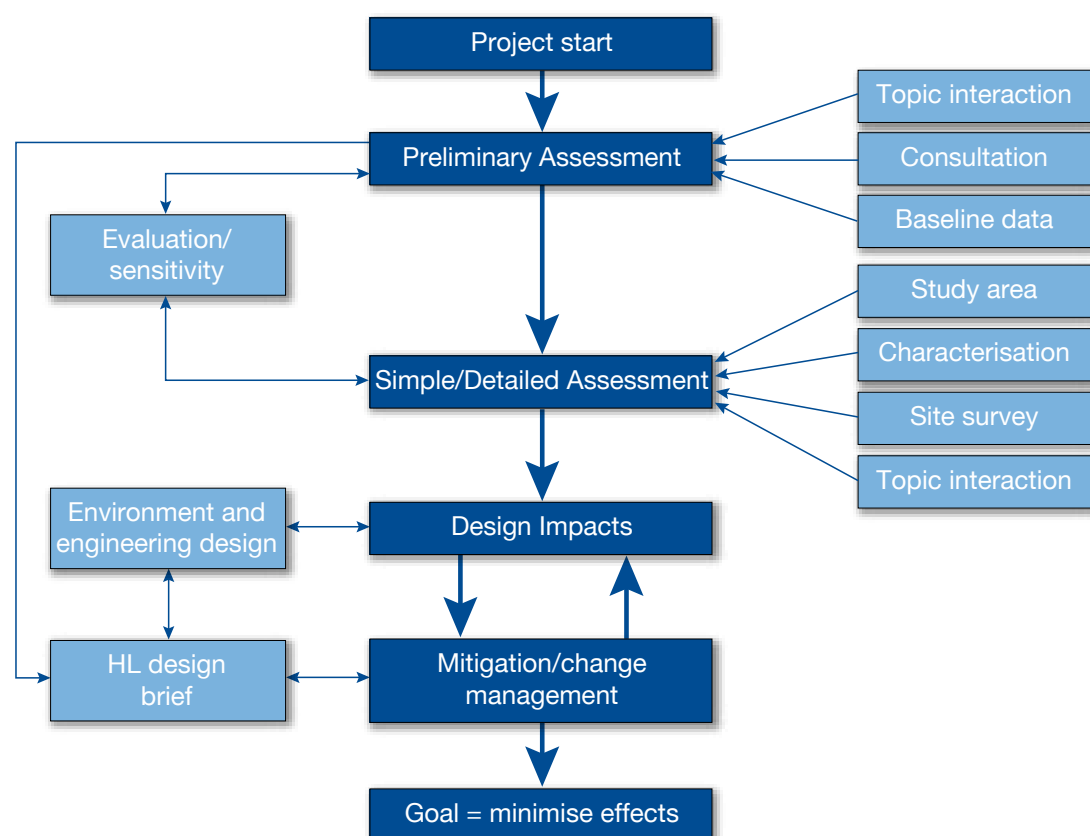


Figure 1.3 Assessment and other processes relating to historic landscape



2.0 Topic interaction & existing guidance

2.1 Topic interaction

When HLA is being undertaken as part of a wider multi-disciplinary assessment, close liaison between topic specialists is vital to avoid double-counting and to ensure that all effects are included, cross-referencing to other topics where necessary. Efficient communication with specialist topic leaders and good project management will assist this process.

2.1.1 There are two critical issues of topic interaction. One is the relationship of HLA with other sub-topic assessments within the cultural heritage topic, the other is the relationship and interaction between the cultural heritage and other topics, particularly landscape and visual impacts topics but also the nature conservation, noise and vibration topics, and possibly others.

Interaction with other cultural heritage sub-topics

2.1.2 As illustrated in Figure 2.1, all three cultural heritage sub-topics share a common baseline dataset covering both designated and non-designated historic environment assets. There are areas where close liaison between the sub-topic specialists is essential. For instance, where a field survey is required to establish or confirm **historic landscape character types** for a specific scheme, it may be readily combined with assessments undertaken by the archaeologist and/or historic buildings specialist to maximise resource economies.

2.1.3 However, the distinctions between the three sub-topics should be maintained. Although assets in the cultural heritage baseline can be relevant to more than one sub-topic, there should not be any overlap of issues between the sub-topics if the necessary clarification is set out correctly at the start of an assessment. This is because the concerns of **historic landscape** character stand apart from the studies of the other two sub-topics:

- Archaeological remains and historic buildings have material remains as their subjects
- **Historic landscape** character is neither a larger group of material objects nor just a more extensive mapping of the context of those material remains but rather a 'particular combination of **components** and feelings' (Countryside Commission 1996) that give rise to an appreciation of **historic landscape character units** (types, zones, sub-regions, regions). HLA deals with effects on **historic landscape character units** (see DMRB Volume 11 Cultural Heritage Annex 7 (Historic landscape Sub-topic). <http://www.standardsforhighways.co.uk/dmrb/index/htm> .

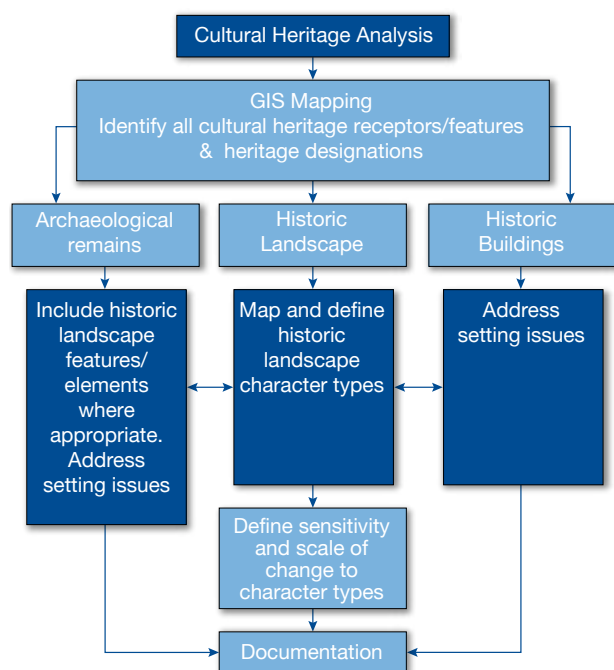


Figure 2.1 - Interaction between historic landscape and other cultural heritage sub-topics

2.1.4 Elements that represent evidence for **time-depth** and **historic landscape** character are identifiable as objects, for example: ridge and furrow earthworks, track ways, field boundaries, whole field systems or evidence of historic industrial land uses that are inherent to particular **HLC** types; or the parts (naturalised or manmade features such as houses, lakes, bridges, pathways, or historic planting) that make up an ornamental or designed **HLC** type. It is important for the **HLA** to plot and recognise these **elements** in order to understand how they individually contribute to the understanding of an **historic landscape character type**.

2.1.5 However, it is also important that as objects they are not divorced from their parent sub-topic, or double counted, so whilst they may be integral to the understanding of **HLC** they should not form part of the **HLC** baseline as such, but remain in the baseline description for historic buildings and archaeological remains. Baseline information is likely to be organised as follows (Figure 2.2):

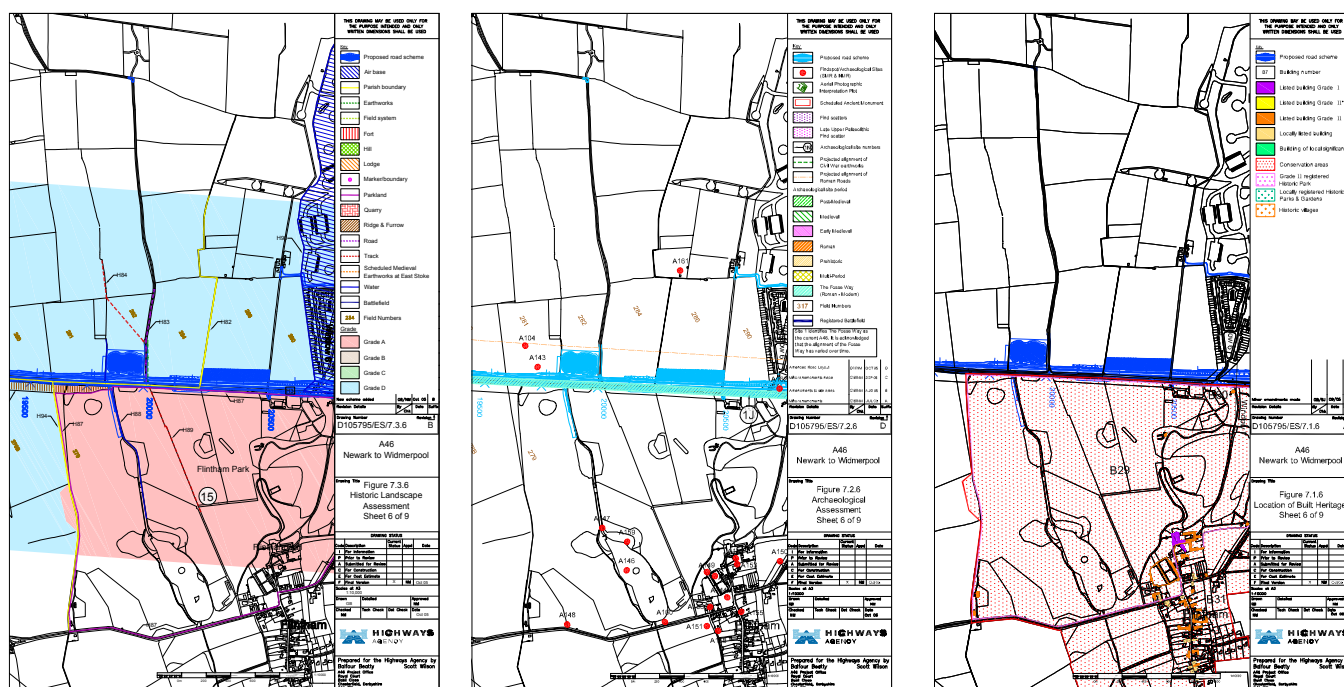


Figure 2.2 Baseline mapping for historic landscape (left), archaeological remains (middle) and historic buildings (right).
© Highways Agency

- Historic buildings and structures (e.g. industrial architecture, military sites) and area designations relevant to them (e.g. conservation areas, historic park and garden designations) are mapped and managed as the historic buildings baseline
- Archaeological remains including Scheduled Monuments (SM), registered battlefields, SMR find spots, ridge and furrow, important earthworks and the multitude of other surface, visible and buried **components** that make up the archaeological resource are mapped and managed as the archaeological remains baseline
- The **historic landscape** character baseline comprises **HLC** types, zones, or sub-regions mapped in **GIS** and informed by the relevant descriptive attributes and values.

2.1.6 In this way it can be ensured that:

- a) all assets or constraints are accounted for and
- b) archaeological remains and historic buildings are properly related to the considerations of **historic landscape** character.

2.1.7 It is important to remember that just because an **historic landscape character unit** may contain a Scheduled Monument, it does not necessarily mean that the landscape in which it sits has a high **historic landscape** value rating. The Scheduled Monument, for example, may sit within a fairly ordinary **historic landscape character type**, for example a modern estate with standardised developments. Further development may well produce adverse effects on the **setting** of the Scheduled Monument but it would not necessarily follow that there would also be noticeable change in the **historic landscape character type**.

2.1.8 It is therefore quite acceptable that the significance of the effect on a listed building or Scheduled Monument **setting**, and the effect on the associated **historic landscape character types** is different. This case is illustrated in Figure 2.3 where intensive arable agriculture has substantially changed the character of the **historic landscape**, whereas the evidential significance of the archaeological remains is high.



Figure 2.3 Two Neolithic long barrows surviving as grass-covered 'islands' in a cereal field in the Test valley, Hampshire. © English Heritage. NMR 15717-07

Interaction with landscape topic

2.1.9 Another important consideration is how the **historic landscape** sub-topic interacts with the landscape topic. Although the **HLA** may complement the LCA it should be carried out separately because it calls for specific skills, operates at a different scale and focuses on the historical dimension, as opposed to LCA, which focuses on the visual dimension and the cultural and natural forces that have shaped the landscape. Because a full appreciation of the historic dimension can significantly enhance the LCA, ideally the results of **HLA** should be made available early on to feed into the LCA work undertaken for the landscape topic (Figure 2.4 provides an example of the working relationship in this case showing how **HLA** helps inform the landscape policies for local authority development planning). Since the studies for highways works are often undertaken within the same study period, the developing **HLA** work and LCA work should be exchanged between specialists in order that each can inform the other. See also 4.1.9.



Figure 2.4 Example from Lancashire HLC showing relationship between HLA and LCA © Lancashire CC

2.1.10 The LCA and HLA topics need close collaboration (see Box 2.2). The scope and extent of the available baseline data should be discussed and agreed between the specialists to avoid conflict and contradiction. Any potential issues should be resolved at the outset of the assessment through identifying baseline data that can be shared. Agreement should be made as to which topic area is to source and map resources needed for both topics, for example, local planning authority designations and guidance on **historic landscape preservation** and any guidance on **mitigation**. During the early stages of a project this co-working can help establish a clear understanding of what the landscape design needs to take account of to help manage change to **historic landscape** character and inform the design brief (see Chapter 8).

Box 2.2 Liaison between HLA and LCA

To avoid potential conflicting results or omissions, the following points should be kept in mind:

- **HLA** should contribute the historical dimension for the LCA study
- Specialists should liaise to establish what baseline data sources they have in common and agree task division for collecting and managing them
- **HLA** should provide an early indication to the landscape team of what the key historic issues for the design and **mitigation** are likely to be, what may or may not be appropriate in terms of planting and earthworks and what should be sought together as optimum design potential to address, for example, topographic change issues.

Interaction with other topics

2.1.11 Close collaboration with a number of other DMRB assessment topics may be needed to ensure that the **HLA** specialist is properly informed and has taken account of impacts of the scheme derived from, for example, nature **conservation** studies, water and drainage proposals, traffic, noise and vibration modelling.

The specialists in these areas should also be made aware of any **historic landscape** issues affecting their fields of study. This data should be exchanged early on in draft form. Consideration of change to **historic landscape** character requires a careful understanding of how these issues would interact in the finished scheme (see Chapters 7 and 8).

Interaction with EnvIS and other datasets

2.1.12 Consideration also needs to be given as to how **HLA** interacts with the Highways Agency Environmental Information System (EnvIS , for more detail see DMRB Volume 10 Section 0 and IAN 84/07) and other datasets prepared by the Agency's new build and Network Management Agents. EnvIS consists of an environmental inventory and environmental management information that enables data relating to different assets to be recorded and retrieved in the course of the HA's environmental management process. In particular, these data include **elements** that comprise the environment within and surrounding the HA highway network. The practitioner should review the baseline data contained within EnvIS for the purpose of informing the planning and design of the scheme and contribute any relevant results from the **HLA** (in particular the design brief) to update EnvIS.

2.2 Current advice in DMRB for historic landscapes

2.2.1 DMRB contains a number of references to **historic landscape** outside the core guidance presented in Volume 11 Cultural Heritage. Such guidance continues to be relevant and is aimed at drawing the attention of other environmental specialists and design engineers to **historic landscape** issues.

2.2.2 This existing information can be found in:

DMRB Volume 11 – Environmental Assessment

- Section 3 Part 5 – Landscape Effects

DMRB Volume 10 – Environmental Design and Management

Numerous design examples are given throughout DMRB Volume 10 that either relate directly to **historic landscape** and design guidance or are standards that the **HLC** specialist should be aware of when discussing the design brief and **mitigation** with other team members (see Chapter 8).

- **Section 0** - Environmental Information System
 - Part 1 Introduction
 - Part 2 Environmental Inventory
 - Part 3 Environmental Management Information
 - Part 4 Data Management -Requirements
 - Part 5 Environmental Management Plans
- **Section 1** - New Roads
 - Part 1 New Roads Landform and Alignment
 - Part 2 New Roads Planting, Vegetation and Soils
 - Part 3 New Roads Integration with Rural Landscapes (see particularly sections on Alignment and Historic Landscapes and Integration with Rural Landscapes)
 - Part 4 The Road Corridor
 - Part 5 New Roads Heritage
- **Section 2** - Improving Existing Roads
 - Part 1 Road Improvement within Limited Land Take
 - Part 2 Improving Existing Roads - Improvement Techniques
- **Section 3** - Landscape Management
 - Part 2 The Landscape Management Handbook

- **Section 5 - Environmental Barriers**
 - Part 1 Design for Environmental Barriers
 - Part 2 Environmental Barriers : Technical Requirements
- **Section 6 - Cultural Heritage Management Plan Guidance**
<http://www.standardsforhighways.co.uk/dmrb/index/htm>



Checkpoint: Topic interaction and existing guidance

- Have all topic and sub-topic specialists been fully briefed on the proposed methods for dealing with topic interactions to avoid omissions or unhelpful overlaps between topics? (Especially important when preparing an Environmental Statement)
- Has a clear agreement been made between parties as to who will source and manage baseline data common to different topics and sub-topics?



3.0 Screening and scoping

3.1 Introduction to the Highways Agency assessment levels

3.1.1 DMRB Volume 11 identifies 3 levels of environmental assessment, these being **screening and scoping**, **simple assessment** and **detailed assessment**. All projects will need **screening and scoping** to be carried out and this activity is based around a desk study involving an exploration of easily available high-level data sufficient to highlight significant concerns or constraints and determine if any further work is required.

3.1.2 **Simple assessment** or **detailed assessment** is required if **screening and scoping** determines that more information is needed about a topic to ensure that choices made in the scheme design are robust and defensible. **Simple assessment** is likely to be an adequate response where the predicted environmental effect for that topic is not a fundamental issue in the decision making process. **Detailed assessment** is generally associated with projects which have the potential to cause significant effects on environmental receptors (or resources such as **historic landscape** character) and requires a more detailed understanding of the resource and specific design measures needed to address those concerns.

3.1.3 It is important to note that the **screening and scoping** should be sufficient to determine if no further work is required or if either a **simple** or **detailed assessment** would be required to address the issue. The relationship between **simple** and **detailed assessment** is not necessarily sequential. If, following **screening and scoping**, a **simple assessment** had been deemed sufficient, then a **detailed assessment** would only be needed if the scheme requirements changed and new **screening and scoping** revealed a need for more detailed work, or if the results of the **simple assessment** disclosed some previously unforeseen complication that required **detailed assessment**.

3.1.4 The reader is directed to DMRB Volume 11 Sections 1 and 2 which provides further guidance on the framework of assessment activities.

<http://www.standardsforhighways.co.uk/dmr/index/htm>

Figure 3.1 illustrates the process.

3.1.5 In deciding the level of assessment particular attention should be paid to how **historic landscape** character may be changed by road schemes, so that appropriate information is collected. A road is a linear feature of the landscape and often makes a strong contribution to the historic character of the landscape in its own right. New roads and modifications to existing roads can affect landscapes over long distances and wide areas.

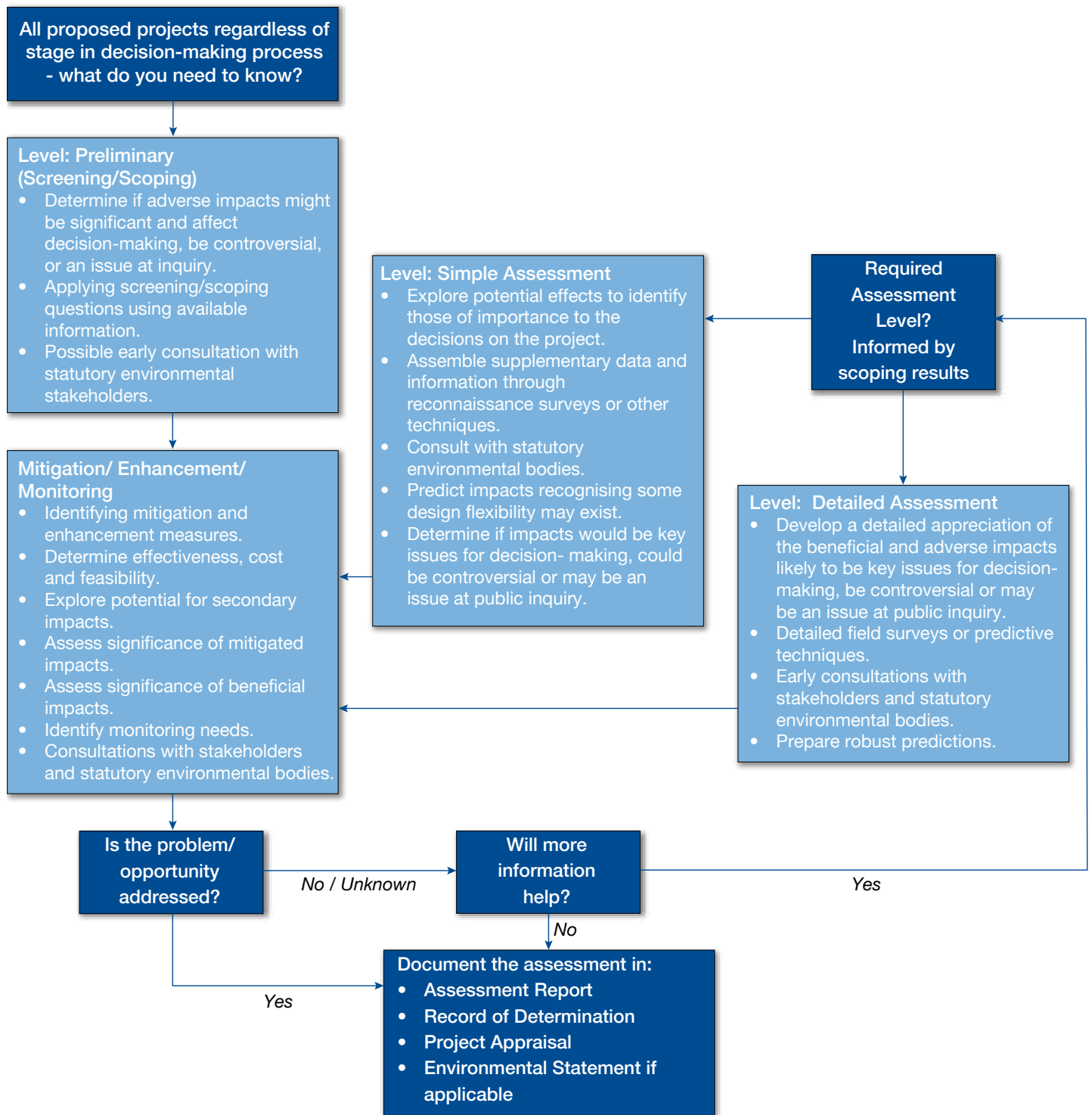


Figure 3.1 Assessment levels (as taken from DMRB Volume 11 Section 1)

3.2 Preliminary assessment

3.2.1 The objective of screening, based on readily available information, is to determine which environmental topics should be considered in an environmental assessment/ determination. The results may indicate that no further work is required, or that a **simple assessment** or a **detailed assessment** should be undertaken. Whenever screening shows that assessment of the **historic landscape** issues is required, then scoping should identify what methods are to be applied, and whether the further work should be a **simple** or **detailed assessment**.

3.2.2 Screening and scoping should be carried out by the **historic landscape** specialist regardless of the stage that project has reached, either historically or currently. Two key questions (as indicated in Box 3.1) should initially be posed and the necessary baseline data reviewed in order to inform the screening or scoping report.

Box 3.1 Screening and scoping questions

How would the proposed scheme affect **historic landscape** character? How would it affect the future **legibility** of existing **time-depth**?

Would the scheme affect an area that has a particularly sensitive or highly valued **historic landscape character type** whether designated in some way or not?

Data collection

3.2.3 Sufficient information to complete the **screening and scoping** will comprise a review and analysis of the following (further detail on how to access baseline information can be found in Chapter 4 of this guidance):

- County **historic landscape** character mapping or other **historic landscape** datasets (where readily available), for example, significant **historic landscape character types** identified in the local Sites and Monuments Record (SMR) or Historic Environment Record (HER)
- Consultation with the relevant conservation, characterisation, or historic environment officer at the local government office (county, borough, or district), or statutory authority
- National/county/or local designated sites (landscape/biodiversity) such as National Parks, National Trust Land, Heritage Coasts, Areas of Outstanding Natural Beauty (AONB) and Special Areas of Conservation (SAC) sites
- Local authority planning documents which often record non-statutory designations for **historic landscape** (see PPS1 <http://www.planningportal.gov.uk/england/professionals/en/1020432883348.html>)
- Area LCA and any county LCA work that may provide a relevant historical synopsis for local **historic landscape** character
- Aerial photographs where available (such as at online data sources for viewing or perhaps those held by HA agents). These can provide good top-level indications that help to identify what **historic landscape character types** are broadly present
- Baseline data available for review in EnvIS.

The potential and the limitations of existing sources should be carefully considered, especially the relevance of the available information to road scheme design and decision making.

Data management during screening and scoping

3.2.4 GIS should be used from the outset to collate and manage all baseline data used for **screening and scoping** (combined in a project **GIS** with the other cultural heritage sub-topics baselines, and relevant landscape datasets). This encourages a good level of integration between topic baseline data and any developing design so that a preliminary understanding of likely impacts and **mitigation** can be addressed.

Users should refer to EnvIS to utilise any baseline data available within the local HA network and its surrounding areas. **HLA** may be an effective way of addressing the cumulative impacts on cultural heritage assets.

Screening and scoping examples

3.2.5 The following case studies (Boxes 3.2 and 3.3) present example results that may arise from the **screening and scoping**, and apply the key questions, identified in Box 3.1, to illustrate possible outcomes.

Box 3.2 Case study – widening of the M1

Task: Assessment of the scale and extent of the proposed scheme

What scale of change of **historic landscape** character would the scheme potentially introduce (remembering that **historic landscape** character is a landscape level issue)? Consider the scale of land take in relation to **historic landscape character units**, potential topographic changes (cut and fill), and potential for large-scale severance or barriers within or between **historic landscape character units**.

Key question: How would the proposed scheme affect **historic landscape** character? How would it affect the future **legibility** of existing **time-depth**?

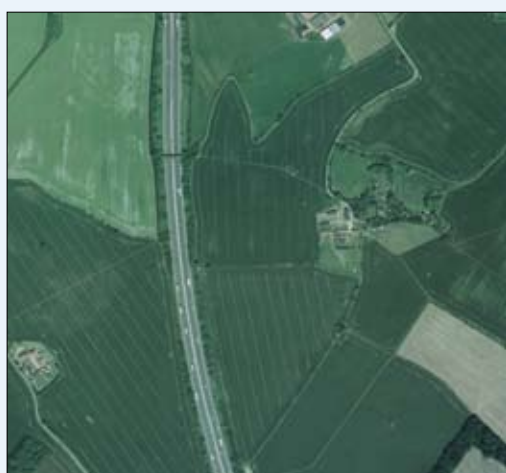


Figure 3.2 M1 in Bedfordshire north of Junction 12 © Highways Agency.

Example answer: An online widening scheme of an existing multilane road is not likely to affect the **legibility** of adjacent **historic landscape character units** significantly. Land take is likely to be minimal, existing topography is unlikely to be significantly transformed and the scheme is likely to add to existing severance or barriers rather than introducing new ones. However be aware of the impacts of new lighting, signage or junction arrangements.

Task: Identify if valuable or designated areas are affected

Key question: Would the scheme affect an area that has a particularly highly valued **historic landscape character type** whether designated in some way or not?

Example answer: The immediate landscape either side of the motorway was already adversely affected by field boundary degradation and introduction of modern enclosures when the motorway was first constructed. Further work on extending the width of the motorway would introduce minimal change to **historic landscape** character and the local **historic landscape character types** are of low value.

Conclusion: Following a review of baseline data and existing **HLC** studies, **screening and scoping** concludes that there is sufficient understanding of the local **historic landscape sensitivity** to document the assessment without the need for **simple** or **detailed assessment**. The assessment is then documented in accordance with whatever output the project requires (as indicated in Figure 3.1).

These examples assume that key baseline data will have been collected and mapped and an initial value assessment undertaken in accordance with Chapters 6 and 7 of this guidance.

3.2.6 Box 3.2 provides an indication of a simple non-sensitive outcome, based on an understanding of local **historic landscape** character **sensitivity** derived from the local **HLC** project.

3.2.7 Alternatively the **screening and scoping** may indicate that the value of the **historic landscape character units** affected by a proposal is more varied. The case study in Box 3.3 demonstrates a typical level of detail that the **screening and scoping** may deduce from baseline data and what further assessment work would be needed.

Box 3.3 Case study - a project affecting HLC units with varying sensitivity ratings

HLC type 1 - Salden Manor

Task: Identify if valuable or designated areas are affected

Key question: Would the scheme affect an area that has a particularly valuable **historic landscape character type** whether designated in some way or not?

Example answer: This is an area little altered since the 16th century, including rare surviving enclosures and an accompanying Tudor mansion house. The area also includes areas of ancient woodlands such as Middle Salden Wood. Salden is a landscape of high **sensitivity** and is vulnerable to change. Many ancient field patterns are in good to moderate condition and would benefit from enhancement and **restoration** of former field boundaries. This landscape has a high **historic landscape** value and should be protected and enhanced.

Conclusion: **Screening and scoping** studies indicate that there is sufficient understanding of the local **historic landscape** character value to indicate that a **simple** or **detailed assessment** is required to fulfil the assessment documentation process (as indicated in Figure 3.1). The **simple** or **detailed assessment** would be undertaken only for this **HLC** type and detailed **mitigation** measures developed to manage change to this sensitive area.

And in contrast...

HLC type 2 - Clayland Fringe:

Task: Identify if valuable or designated areas are affected

Key question: Would the scheme affect an area that has a particularly valuable **historic landscape character type**, whether designated in some way or not?

Example answer: This small zone of Clayland is situated between Milton Keynes and the Greensand ridge of the Brickhills. The landscape is made up of surviving fragments of parliamentary enclosure field systems otherwise absorbed into Milton Keynes. It is of low value because of previous losses resulting from the expansion of the Milton Keynes urban area.

Conclusion: **Screening and scoping** studies conclude that there is sufficient understanding of the local **historic landscape** character to document the assessment without the need for **simple** or **detailed assessment**. The assessment is then documented in accordance with whatever output the project requires (as indicated in Figure 3.1).

The example presumes that the proposed development would potentially introduce significant adverse impacts or change.

3.2.8 The outcome of **screening and scoping** will determine:

- The broad value and scale of **historic landscape character units** (types zones or sub-regions) within the scheme study area
- Those **historic landscape character units** that have been adequately understood during preliminary assessment, and therefore do not need further work to complete the environmental assessment
- The need for **simple** or **detailed assessment** for particular **historic landscape character units**.

A map indicating the results of **screening and scoping** and the extent of any further assessment should be provided if required.

3.2.9 The **screening and scoping** report may conclude that no further level of assessment is required. This result may be because there is sufficient information readily available to understand the **historic landscape character unit** value and successfully document the assessment; or that the effects on, or changes to, **historic landscape** character would be negligible, as a result either of the low value of the study area or the limited extent and scale of the proposals. In these cases the issue can be scoped out.

3.2.10 Where there is insufficient information available (i.e. in the case that there is no detailed local **HLC** data available for review), or it is clear that further information would be required to understand adequately the value of the **historic landscape character units** affected, recognition that further assessment (at either the simple or detailed level) would be the outcome (as indicated in Figure 3.1).

3.2.11 The **screening and scoping** is reported as outlined in DMRB Volume 11 Cultural Heritage. <http://www.standardsforhighways.co.uk/dmr/index/htm>



Checkpoint: Screening and scoping

- Has **screening and scoping** indicated that sufficient data are available to establish the baseline and therefore complete the assessment?
- Would further information be required to document assessment fully?



4.0 Data collection

4.1 Baseline data

4.1.1 Data collection and research methods are outlined in DMRB Volume 11, Cultural Heritage Annex 7 (Historic Landscape Sub-topic). <http://www.standardsforhighways.co.uk/dmrbl/index/htm> The following information presents supplementary advice on the sources and collection of baseline data.

4.1.2 Research for the **historic landscape** sub-topic can be time consuming and it is essential that the extent of the work undertaken is matched to the need for information in terms of scheme design, impact and **mitigation** (see Box 4.1 for a discussion on study area). A good understanding of **historic landscape** character and value may usually be gained from a range of easily available existing data sources without the need for any more field-based studies. **HLC** is often a process of generalisation, codification and interpretation of existing knowledge rather than new research. Nonetheless, research for the **historic landscape** sub-topic can be time consuming and it is essential that the extent of the work undertaken is proportionate to the needs of the scheme (see Box 4.1 on defining a study area).

Consultation

4.1.3 Those undertaking **HLA** should consult with the relevant statutory agency and the relevant local government officer (development control archaeologist, conservation officer or someone specifically appointed to manage historic landscape matters) at the earliest opportunity to assist in the identification of key areas of **historic landscape** value. Detailed local knowledge and familiarity with key sources will enhance the effectiveness of the **HLA** study.

Existing designations

4.1.4 There is a range of existing landscape designations that are often indicative of **historic landscape** value and which can be quickly mapped. It is worth reiterating that **historic landscape** value is not necessarily driven by a designation.

4.1.5 In England, the regional EH planning officer is the HA's statutory consultee for registered parks and gardens and registered battlefields, for the latter usually in consultation with the Battlefields Trust (<http://www.battlefieldstrust.com>). Their early advice is of particular relevance when considering the extent of **historic landscape** character that may extend well beyond the boundaries of the actual designated area.

4.1.6 The local authority or Natural England should be contacted to identify other relevant designations such as conservation areas, ancient woodland, SSSIs or AONBs. National Trust Land boundaries can be identified on national databases such as <http://www.magic.gov.uk>. The reader is directed to DMRB Volume 11 for full guidance on these sources. <http://www.standardsforhighways.co.uk/dmrbl/index/htm>

Landscape context

4.1.7 The hierarchy of **historic landscape character units** (**elements**, **parcels**, **components**, type, zone, sub-region and region, as outlined in DMRB Volume 11 Cultural Heritage Annex 7 Historic landscape Sub-topic) is suggested as a workable model and the classification set out below provides correlation with the key sources likely to be utilised. **HLA** should first consider the regional context of the scheme proposal, then the specific **historic landscape** character areas and subsequently individual **historic landscape character units**.

Box 4.1 Defining the study area

DMRB Volume 11 Cultural Heritage Annex 7 (Historic Landscape **Sub-topic**) provides basic advice on selecting the study area for **HLA**.

The size of the **historic landscape** study area should be defined taking account of the potential impacts of the road scheme and the assessment level. This may be similar in scale to the landscape topic study area, but may not coincide with the latter's predominantly visual parameters.

The basis of **HLA** is the **historic landscape character unit**, which may be at the scale of the type, zone or sub-region. Depending on the scale and extent of the project being assessed it is a matter of professional judgement on a case by case basis what the appropriate scale would be for **screening and scoping**, **simple** or **detailed assessment**.

The study area should normally encompass the full extent of the appropriate **historic landscape character units** through which the route would run. It may not be necessary to undertake a detailed **historic landscape** analysis down to the minutiae of **elements**, **parcels** or **components** to arrive at this judgement, and sometimes the appropriate unit descriptions will be available directly from local **HLC** mapping. What is important is that the study area is sufficient for the scale and extent of the affected **historic landscape character units** and their relationship to other units, in order to properly consider the effects of the project. The appropriate study area will vary at different stages of scheme development and different levels of assessment. More detailed analysis may be necessary for smaller areas as the scheme design becomes more refined.

Defining the extent of individual **historic landscape character units** can be difficult if baseline data are limited and local **Historic Landscape Characterisation** results are not available. An alternative approach is to adopt fixed parameters to the study area. Options include using parish boundaries or other administrative zones (e.g. A30 Bodmin-Indian Queens) or a standard measured corridor width (e.g. A46 - 2km width). However the use of such methods may not always be appropriate since:

- Modern administrative boundaries are unlikely to conform to **historic landscape character units**
- Administrative areas or fixed width corridors may be too small or too large to fulfil the requirements of the study.

Where **historic landscape** field survey is required for **detailed assessment** in the absence of existing **HLC** studies, a fixed spatial study area to identify and record specific **historic landscape elements**, **parcels** and **components**, aligned with the project proposal site boundary, may be the appropriate solution. In all cases professional judgement will be required, and the choices made should be justifiable. The extent of the study area should be discussed with the relevant statutory agency and local government historic environment advisors as part of the consultation process.

Regions

4.1.8 Regions are the highest level summary likely to be useful for **HLA**. For the landscape topic, these are published by Natural England under their former title of the Countryside Agency (CA) in their national landscape character mapping (see Figure 4.1) and the descriptions of each region include significant observations on the cultural heritage background prevalent in each region. The English Heritage Atlas of Rural Settlement (Roberts and Wrathmell 2000) provides a national settlement framework broken down into sub-provinces and local regions (see Figure 4.2) and the accompanying characterisation criteria are similarly useful starting points for users to establish the **historic landscape** context for an **HLA** study.



Figure 4.1: Countryside Character Initiative and Landscape Character Assessment Mapping © Countryside Agency
<http://www.countryside.gov.uk/LAR/Landscape/CC/index.asp>

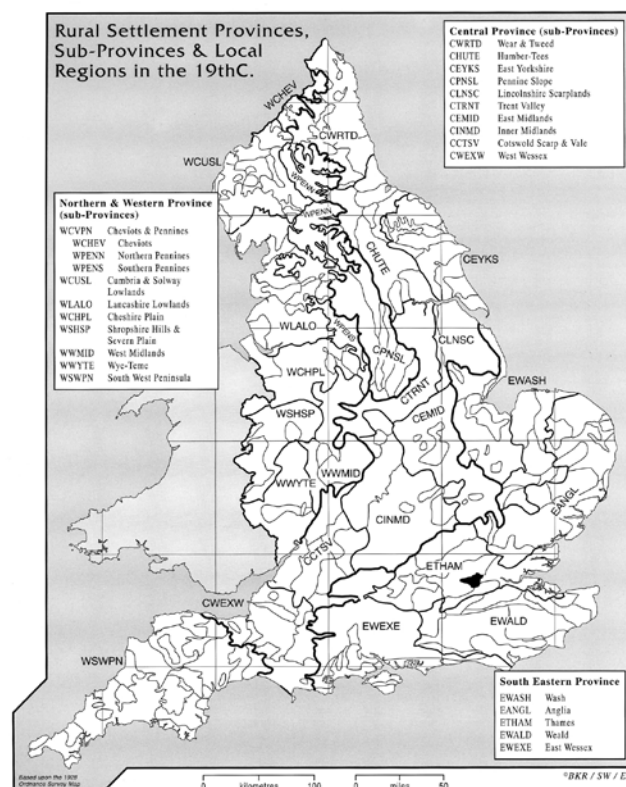


Figure 4.2: Rural settlement provinces, sub-provinces and local regions in the 19th century. © English Heritage

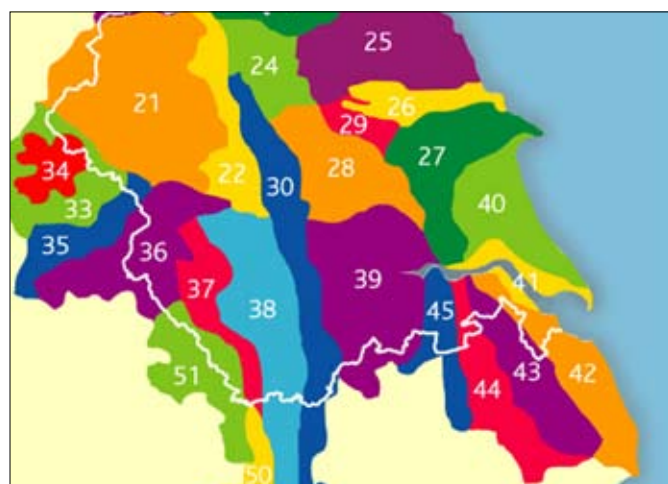


Figure 4.3: Landscape Character Area 39 Humberhead Levels © Countryside Agency

Landscape character areas

4.1.9 Each CA region is sub-divided into specific landscape character areas (see Figures 4.3 and 4.4). The features that define the landscape character of each area are recorded in individual descriptions that explain what makes one area different from another and show how that character has arisen and how it is changing. Each character area description report published by Natural England provides a detailed account of landscape character, including a section on historical and cultural influences. Key **historic landscape** data can therefore be extracted for use in **HLA** (Box 4.2 provides an example of the landscape character area report output for Humberhead Levels).

Box 4.2 Landscape Character Area 39 Humberhead Levels (key HLC data blue)

Key characteristics

- A flat landscape occupying the area of the former glacial Lake Humber
- Very low-lying, commonly at or below mean high-water mark
- Surface geology of drift deposits, including glacial tills, clays, peat, sand and gravel and wind-blown sand, giving local variations in character
- Broad floodplains of major navigable rivers draining to the Humber Estuary with extensive areas of washlands and some alluvial flood meadows
- Rich high-quality land which is intensively farmed and includes substantial areas of warp land
- Essentially flat, very open character with occasional rising ground formed by ridges of sand and outcrops of Mercia Mudstone
- Very large open fields divided by dykes, with relatively few hedgerows or field trees
- Peat bogs of international ecological and historical importance that is widely exploited for commercial peat extraction
- Widespread evidence of drainage history in rivers, old river courses, ditches, dykes and canals
- Important areas of historic landscape such as the more enclosed agricultural landscape at Fishlake, the remnant open fields of the Isle of Axholme and the unique 'cable' landscape of Thorne
- Areas of remnant heath and large, isolated conifer plantations on poor sandy soils
- Modern motorways on embankments and large installations, notably power stations, which are often prominent in the flat landscape.

© Countryside Agency



Figure 4.4: LCA 39 Humberhead Levels
© Countryside Agency

4.1.10 The LCA summary and accompanying descriptive documentation provides the essential area characteristics which can contribute to understanding the relative **rarity** or importance of **historic landscape character units** relevant to a particular scheme.

4.1.11 In Scotland and Wales, HLAMAP and LANDMAP respectively provide a similar interface and should be consulted. Stand alone landscape character Area reports also exist for National Parks, Areas of Outstanding Natural Beauty and some National Trust properties and should also be consulted where available. (For example see http://www.exmoor-nationalpark.gov.uk/lca-final_report.pdf)

County or special areas countryside appraisal

4.1.12 Some counties in England have prepared county or special areas countryside appraisal guidelines that may provide a finer grain analysis of landscape character that can be used for HLA purposes (e.g. The Nottinghamshire Countryside Appraisal and Landscape Guidelines - Nottinghamshire County Council, 1998 (<http://www.nottingham.gov.uk/historiclandscape.pdf>) and The Warwickshire Landscape Guidelines, 1993).

4.1.13 These sources may provide a detailed regional historic landscape synopsis (often informed by the local authority archaeological service). They can provide useful additional top down baseline data, and are a readily available source of particular local historic landscape values and management guidelines (including mitigation options) for broad historic landscape types.

County based or regional HLC datasets

4.1.14 An increasingly important starting point for data collection for historic landscape is the local county or regionally based HLC GIS, where this is available. Where they are completed they can provide baseline information for identifying historic landscape character units. The core baseline data for identifying the local historic landscape character units needed to complete the assessment are provided in England by English Heritage sponsored county level HLC's; in Wales by regional HLC's developed by the Welsh Trusts; and in Scotland by HLAMAP, managed by Historic Scotland.

4.1.15 Documents that describe HLC methods, application and coverage in England are numerous. Amongst the most accessible are Clark et al 2004 (<http://www.english-heritage.org.uk/upload/pdf/a4report.pdf>); Aldred and Fairclough 2003; Fairclough and McInnes 2003; Fairclough 2003; Turner 2007; Turner and Fairclough 2007 (forthcoming); Fairclough and Wigley 2006; (http://www.english-heritage.org.uk/upload/pdf/hlc_2_titlepagecontents.pdf) English Heritage 2002. English HLC's are essentially a GIS database supported by a text report summarising core outputs (methods,

HLC Type

	Ancient Enclosure
	Post-Medieval
	Modern Enclosure
	Ancient & Post-Medieval Wood
	Modern Woodland
	Ancient & Post-Medieval Settlement
	Modern Settlement
	Modern Recreation
	Ancient & Post-Medieval Ornamental
	Modern Ornamental
	Ancient & Post-Medieval Industry
	Modern Industry
	Modern Military
	Modern Communication
	Moorland
	Reverted Woodland
	Lowland Moss & Grassland/Scrub
	Water
	Coastal Rough Land
	Saltmarsh
	Dunes
	Sand & Mudflats

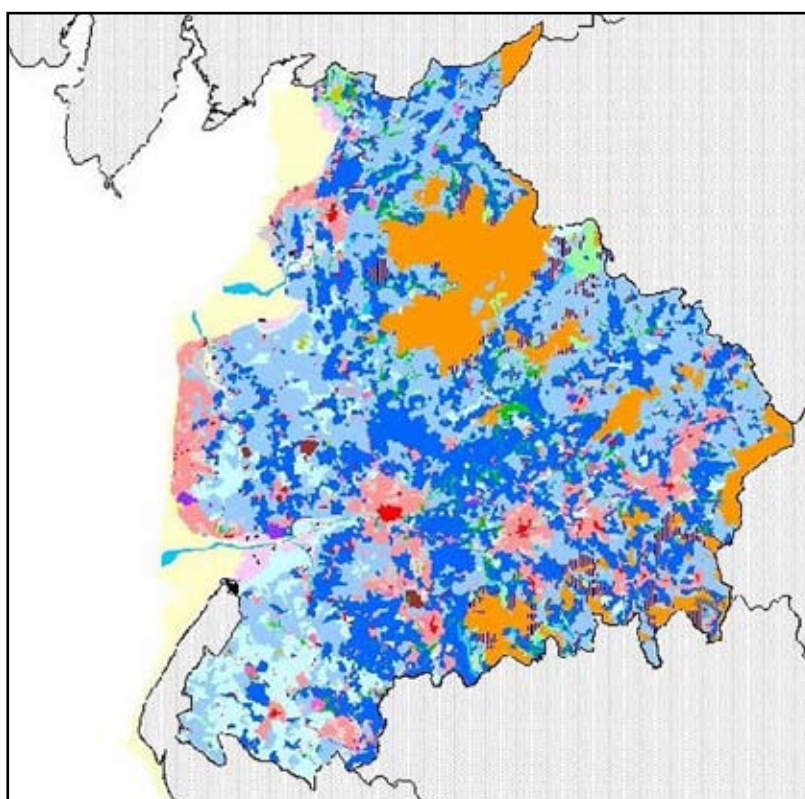


Figure 4.5: Historic landscape types as identified in Lancashire HLC © Lancashire CC



Figure 4.6: Historic landscape types as identified in Lancashire HLC (Sand and Mudflats left and Ancient Enclosure right)
© Lancashire CC

characterisation and analysis) and most importantly often include local guidelines for integrating **historic landscape character types** into management strategies. Some HLCs are accessible in simplified format on the web; see links on <http://www.english-heritage.org.uk/characterisation> web page, click landscape. These core **HLC** outputs can be used to consider relative **rarity**, **vulnerability** or areas at particular risk.

4.1.16 The key output of **HLC** is **GIS** mapping indicating **historic landscape character types** both at a broad scale (for example: enclosure, woodland, settlement, industry, ornamental (designed) land, recreational land etc) and more detailed levels (for example anciently enclosed land or recently enclosed land).

A typical series of types (from Lancashire **HLC** <http://www.lancashire.gov.uk/environment/archaeologyandheritage/hlcpcover/index.asp>) are illustrated in Figures 4.5 and 4.6. The types are usually annotated with a period indicator that identifies the period at which the predominant **historic landscape** character came into being.

4.1.17 To gain the maximum benefit from completed **HLC** work or that still in progress, arrangements should be made with the holding organisation to access and extract the relevant data in a format that can be incorporated into the project **GIS**. Merely accepting hard copy characterisation maps showing **HLC** type polygons is unlikely to be sufficient. For the **HLC** dataset to be fully appreciated, the characterisation mapping needs to be accompanied by the core outputs of **HLC**. The outputs can include:

- Previous land-use
- Date of enclosure
- **Time-depth**
- Past landscape change
- Enclosure process
- Interpretation of morphology
- Time-slice maps
- Stratigraphy.

(Aldred and Fairclough, 2003, 27)

Box 4.3 Extract from Lancashire HLC - general management guidelines for ancient enclosure, and more specific advice for sub-type 'enclosed from former woodland' is in blue.

- Encourage the retention of smaller, irregular fields and the **maintenance** of the boundaries and associated structures (walls, hedges, ditches, gateposts and stone stiles) that define them
- Encourage the retention of areas of surviving ridge and furrow through the **maintenance** of an appropriate pastoral regime
- Further information and surveys are required to understand this **HLC** type, its origins and development. In particular, assessments are needed to quantify and qualify historic farm buildings, surviving boundaries and historic routeways and particular patterns of interrelationship of these **elements** to each other. This information can then be used to guide future management proposals and appropriate **conservation** measures and to target scarce resources
- The importance of this **HLC** type as the remnant of a much more extensive and commonplace landscape in the Lancashire area should be borne in mind when planning for new development and in determining planning applications
- **Enclosed from former woodland. Conserve and enhance the historic pattern of irregular field boundaries, former woodbanks, pockets of ancient woodland (as individual stands, as hedgerow trees or in field corners), wide and varied hedgerows, dispersed non-nucleated settlements and the intimate networks of footpaths and tracks which typify the haphazard and often piecemeal process of woodland clearance by small groups and individuals. Priority boundaries include those that still adjoin ancient woodland and those that can recognisably be associated with an individual farmstead or clearance event.**

© Lancashire CC

**Lancashire
Ancient Landscape
Pre 1600 AD**

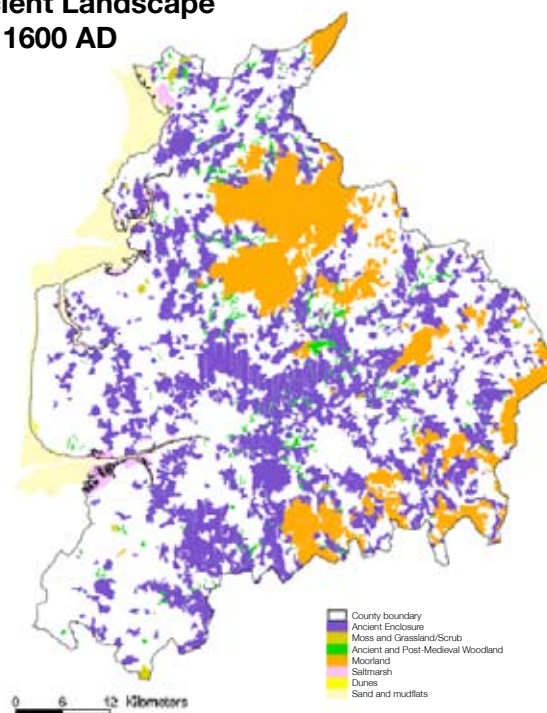


Figure 4.7 Example of a timeslice map to assist the analysis of HLC – Lancashire HLC © Lancashire CC

4.1.18 When complete it is anticipated that each county council or regionally based HLC will provide a map of **historic landscape character types** accompanied by a set of descriptive texts that provide the core outputs of **historic landscape** analysis (see Annex 7 para 7.1.4). It is particularly important that those undertaking **HLA** review any specific management guidelines that the **HLC** records for particular types or zones. An example of an **HLC** output is provided in Box 4.3.

4.1.19 In Wales, the Welsh Archaeological Trusts and their websites can provide information on **HLC** of the areas (zones) (see Figures 4.8 and 4.9) on the Register of Landscape of Historic Interest in Wales The methodology developed by the Trusts can be used in the remainder of the Principality.

4.1.20 In Scotland, historic land-use assessment is an analysis of past and present land-use. HLAMAP is a web-based presentation of this data that allows the user to view and print the data by historic land-use type, period or category as well as by relict period (see <http://jura.rcahms.gov.uk/HLA/start.jsp>). To date (2006), almost 45% of Scotland has been analysed and is available for interrogation online (see Figures 4.10 and 4.11).



Figure 4.8 Example HLC area from Wales. The Gro character area. Photo: CPAT 00c0099



Figure 4.9 Example HLC type from Wales: Lead mining and limestone quarrying to the north of the road between Rhes-y-cae and Halkyn. Photo: Crown Copyright, RCAHMS 93-CS-1366

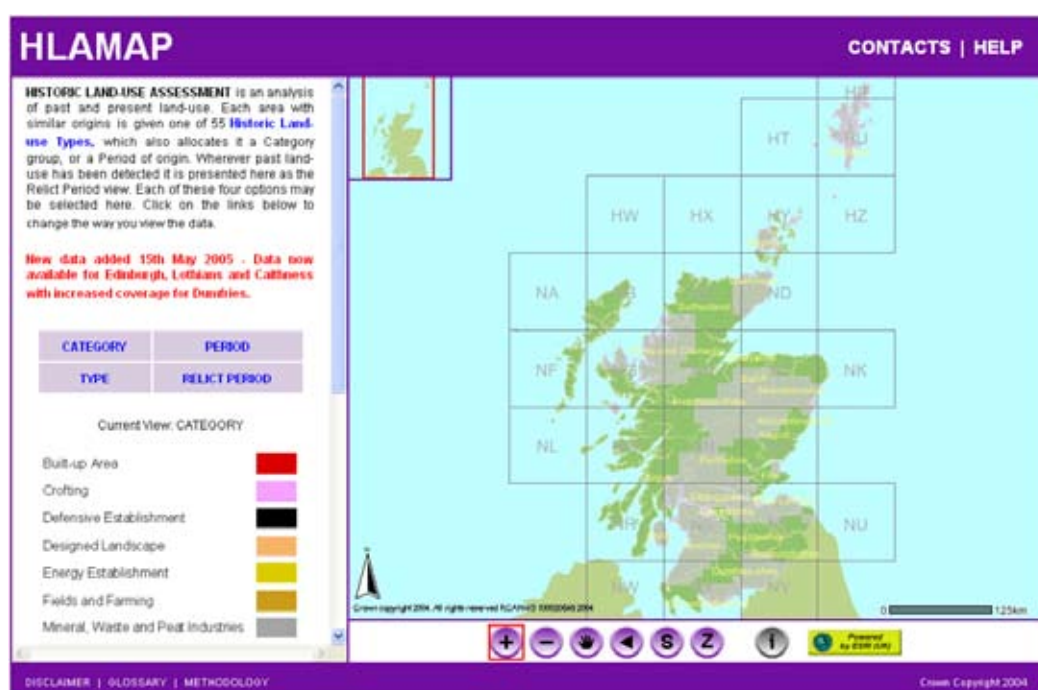


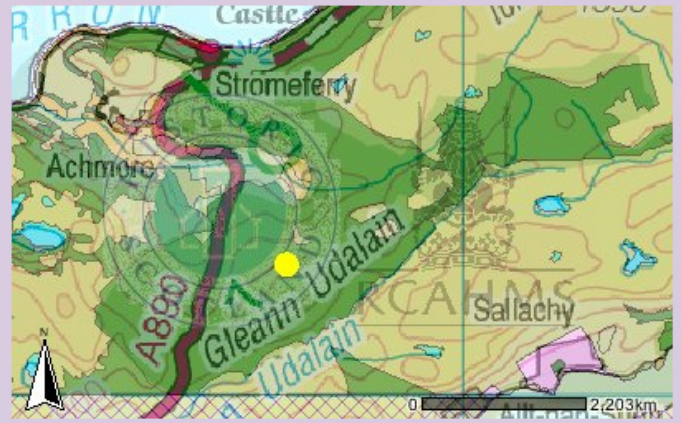
Figure 4.10 Screenshot from HLAMAP website entry page. Crown Copyright: RCAHMS and Historic Scotland

The following report details the **HISTORIC LAND-USE ASSESSMENT** of your chosen area (highlighted by a yellow circle on the map).

This map is a **CATEGORY** view of the data. The **legend** can be found at the bottom of this report.

To print this report click [here](#).

Report produced on 2006-02-17



HISTORIC LAND-USE	RELICT LAND-USE	ADDITIONAL RELICT LAND-USE
CATEGORY: Woodland and Forestry	CATEGORY: Not Applicable	CATEGORY: Not Applicable
TYPE: Coniferous Plantation	TYPE: Not Applicable	TYPE: Not Applicable
PERIOD: 20th Century	PERIOD: Not Applicable	PERIOD: Not Applicable

Figure 4.11 Screenshot from HLAMAP website *REPORT* on HLA Type – 20th century coniferous plantation. Crown Copyright: RCAHMS and Historic Scotland



Checkpoint: Data collection and management

- Is the adopted study area relevant to the scale and extent of the proposed scheme?
- Have all relevant existing sources been identified?
- Has the **screening and scoping** indicated that further research is needed?



5.0 Developing historic landscape character descriptions

5.1 Developing historic landscape character descriptions

5.1.1 If **screening and scoping** concludes that further information is needed and that either a **simple** or **detailed assessment** is required, and existing **HLC** studies are not available or not appropriate, then a project specific **HLC** and analysis may need to be prepared from primary sources.



Figure 5.1 Current (2006) HLC progress in England © English Heritage (drawn by Vince Griffin)

5.1.2 For the **historic landscape** sub-topic, **simple** and **detailed assessments** are likely to require much the same desk study data. The distinction lies in whether a detailed field survey is needed to supplement the desk study results and probably also a higher degree of detail in the evaluation and analysis.

5.1.3 As indicated in Chapter 4, the national programme of **HLC** mapping will eventually provide much of the core baseline data. However, at the time of writing (2007), coverage is incomplete and users of this guidance may find that **HLC** data is lacking or insufficiently developed for their particular study area (see Figure 5.1), necessitating some research or the completion of a simple “mini-**HLC**” to complete the assessment.

5.1.4 DMRB Volume 11 Cultural Heritage Annex 7 (Historic Landscape Sub-topic) <http://www.standardsforhighways.co.uk/dmrb/index/htm> provides a basic introduction to data collection, field survey, analysis and characterisation studies (see also Rippon, 2004 for a highly accessible account). The following sections provide further basic guidance on developing new **HLC** descriptions.

Historic Landscape Characterisation and analysis

*“The object of **Historic Landscape Characterisation** is the present-day landscape, the landscape we live in, enjoy and manage, not any past landscape (whether reconstructed or relict). Characterisation deconstructs or analyses the history of the present landscape so that the principles of sustainable development can be applied to the historic environment in which present and future changes will occur”. (Herring 1998)*

5.1.5 Where local **HLC** data is non-existent, users may need to undertake some level of **Historic Landscape Characterisation** prior to completing the assessment. It is recommended that this is achieved through adopting methodologies outlined in English Heritage guidelines for developing county **HLC**’s (Aldred and Fairclough 2003; English Heritage 2002). The process involves a desk study exercise supplemented by field survey (where needed) to develop local area **HLC** descriptions and core outputs.

The following extract from a more extensive list of **HLC** project objectives provides a useful summary:

- Produce a **GIS**-based **HLC** dataset by characterising the landscape in historic terms. It will define **GIS** polygons encompassing areas of land which have similar historic character and collect attribute data for each polygon that relates to a range of aspects such as detailed field patterns and morphology, historic land-use, landscape change and previous land-use etc, i.e. **time-depth** (see Box 5.1)
- Use the structured attributes attached to each **HLC** polygon to define and describe the **historic landscape** character of the unit based on aspects of present land-use, land management and settlement patterns which reflect differing historical processes in their formation.

(English Heritage **HLC**: Template Project Design; 1st Edition version 1.1 December 2002)

5.1.6 Definition of polygons will be based upon modern land use and the dominant historic character of the landscape's present visible form, derived, for instance, from medieval enclosure, ornamental landscape, or industrial activity. Morphological interpretation and analysis of the modern map, supported where appropriate by consulting historic maps, will be a primary tool. Users should refer to the English Heritage **HLC** Template Project Design 2002 http://www.english-heritage.org.uk/upload/pdf/hlc_template_project_design.pdf for further detailed guidance on sources and methods.

5.1.7 The process is further illustrated in Figure 5.2 which highlights the typical phases for developing local area **HLC** descriptions, typical broad **historic landscape character type** classification, examples of the attributes that need to be recorded and essential sources of information. In Scotland and Wales the methodologies are different, and studies should follow the relevant guidance issued by the devolved authorities' heritage agencies.

Box 5.1 Understanding time-depth

By examining the differences between early and modern cartographic sources we can map and assess changes within the landscape through time. It is important to emphasise that the **HLC** methodology mainly records those historic patterns that are still visible and mapped within the landscape, whether as dominant forms or less obvious indications of past land-use. However, by examining these patterns (using **GIS** analysis to identify areas of similar characteristics), we can examine the **time-depth** of the landscape, specifically:

- The age of different landscape features
- Areas which have remained relatively static (little changed through time)
- Areas which have undergone many alterations
- Areas in which later changes have removed significant evidence of earlier stages in landscape development (radical change)
- Areas where later changes are nested within earlier landscapes resulting in composite landscapes or palimpsests (subtle change).

(Went et al 2003 http://english-heritage.org.uk/upload/pdf/hist_env_issues/lscreport.pdf)

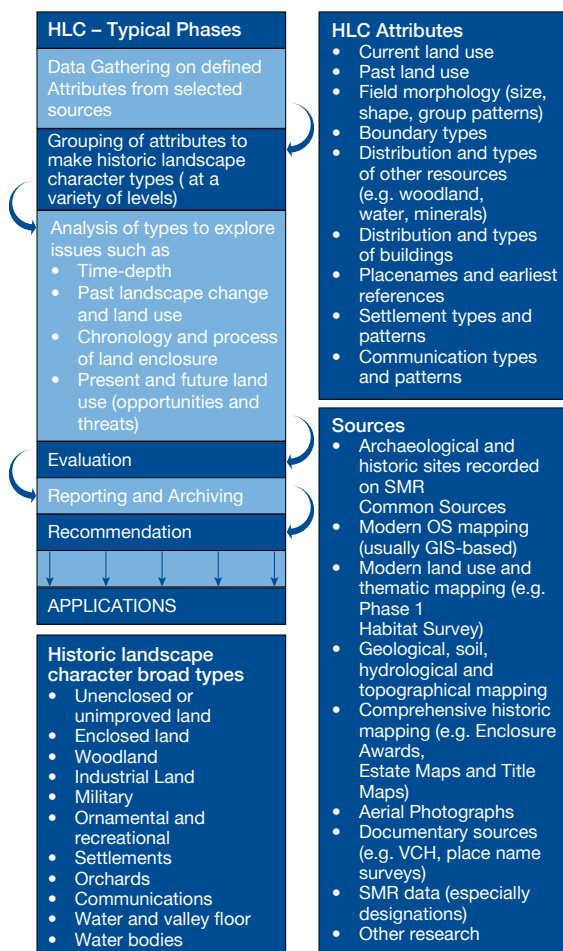


Figure 5.2 Illustration of the process of establishing historic landscape character descriptions for broad types (left). Typical attributes and sources for establishing HLC (right) – adapted from Clark et al, 2004

Field survey

5.1.8 It is not essential for users of this guidance to produce a full HLC to the level of detail envisaged by English Heritage for county HLC mapping; what is essential is that the level of analysis is sufficient to develop type descriptions which are fully understood in terms of their historical development and current significance in their regional context. The basic outputs should describe the **historic landscape character types** and summarise how and why that character has come about.

The following process can be simply adopted to achieve these aims.

Data collection

Using Figure 5.2 as a framework, review the sources of data and record the HLC attributes present within the predetermined study area.

Identifying types

Through an analysis of the spatial and temporal attributes, group the attributes into broad HLC types based on areas that share similar characteristics today.

Describing types

Produce a supporting text narrative (see Box 5.2) for each **historic landscape character type** as appropriate that describes: current land use; if enclosed, date of enclosure and enclosure process; past landscape change; interpretation of morphology, **time-depth**, and key features that contribute to the historic character of the unit.

5.1.9 Further data collection for **detailed assessment** may include field survey, to corroborate desk study results and record in detail the condition and appearance of **historic landscape character types** and record current views from key receptors and historic viewpoints. This work should be undertaken in close collaboration with landscape specialists undertaking visual impact assessment.

5.1.10 The field survey should be undertaken systematically with access agreed with landowners, where possible or appropriate, to assess **historic landscape** character at key locations of the scheme and surroundings, taking into account what may be the most sensitive or significant visual and noise issues associated with the scheme. Information on vegetation cover and the contribution of existing vegetation to **historic landscape** character may be important when considering options for scheme horizontal and vertical alignment and the effects of proposed environmental **mitigation**.

5.1.11 The surveyor should consider the proposed scheme impacts and have a good understanding of the scheme and its major characteristics, including vertical and horizontal alignment, drainage ponds, screening etc, when undertaking a site visit to assess current **historic landscape** character.

5.1.12 The survey may include a photographic record to illustrate key **historic landscape character types** for use in an environmental statement. Photographic evidence may also be needed to provide baseline information for photomontages or to drape on computer generated 3D models (see Chapter 9).

Box 5.2 Case study – HLC unit text narrative - A30 Bodmin-Indian Queens Improvements

Historic landscape character **type**: Anciently Enclosed Land (AEL)

AEL is characterised by farming settlements documented before the 17th century AD and irregular field patterns with either medieval or prehistoric origins (rather than the straight-sided fields of later enclosure). AEL tends to be on relatively sheltered land, not too steep and not too poorly drained, but can extend onto the high downs. It consists of land cleared and improved in later prehistory or in the early medieval period and re-organised in the later medieval period into extensive strip field systems. AEL is the most common Cornish landscape character classification.

Most of the enclosed agricultural landscape of Cornwall is derived from the layout of medieval cropping units (sub-divisions of open-fields comprising a bundle of strips, usually on the same alignment and planted with the same crop) - designated Landscape Type 8a. The proposed A30 road alignment cuts through the Tregoss and Belowda field systems, which, while broadly classified as AEL, are considered to be particularly good examples of fossilised medieval strip-fields - Type 8b. This type is considerably less common than Type 8a and is derived from the enclosure of individual strips in the former open-field.

(Source: Oxford Archaeology and Cornwall Archaeological Unit)

For the purposes of **HLA** it is important to appreciate that one of the key **elements** of this example **historic landscape character unit** are the hedges. Their form and materials, the way they define the **parcels** (fields), their arrangement into the component field systems, as well as the way the road relates to them, all contribute to the **historic landscape** character, and such details should be part of the information contributing to the **HLA** study.

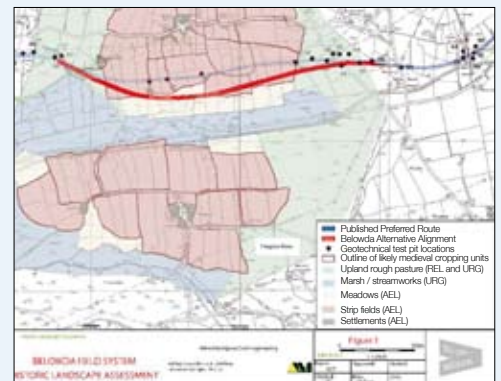


Figure 5.3 Left: A30 Bodmin study area - aerial photograph. The distinctive anciently enclosed land is visible in the foreground, centre and rear centre of the picture, interspersed with unenclosed moorland (upper foreground) and areas of recently enclosed upland (rear left). © Scott Wilson Ltd. Right: extract from the resulting HLA scheme drawing. © Highways Agency

Checkpoint: Developing historic landscape character descriptions

- Does the likely scale and extent of change to **historic landscape** character caused by the proposed scheme or the value of the **historic landscape character unit** justify the level of assessment and research proposed?
- Is there sufficient understanding of the **time-depth**, past landscape change and current land-use to fully document the assessment?
- Is a field survey required to corroborate the desk-study work or better understand the scale of change likely as a result of the scheme?



6.0 Historic landscape evaluation

6.1 Historic landscape character units – establishing value

6.1.1 For road schemes it is necessary to establish whether a given proposal can be accommodated, typically in a more or less closely defined area, and is designed to minimise adverse impacts. A clear description of an **historic landscape character type** should enable inferences to be made about what sorts of changes it might reasonably absorb, and what it would not. A consideration of the value of the **historic landscape character type** should then enable a judgement to be made as to how the changes caused by a proposal would improve or reduce the value of the **historic landscape character** of the area, and how good design might increase the road's contribution to future **historic landscape** character.

6.1.2 If a commonplace and undistinguished **historic landscape character type**, say, a late 20th century industrial estate, were to be drastically affected by a development and changed into a different but equally commonplace and undistinguished **historic landscape character type** (say, a waste disposal facility), the significance of the effect on the historic resource would be neutral. Conversely if a valuable **historic landscape character type** were to be changed into a commonplace one, the significance of the effect would be considerable. The value of the landscape character type needs to be established, as well as the sort of change that is proposed. Depending on the size and complexity of the scheme being assessed, the evaluation may be applied to individual **historic landscape character types** or wider **historic landscape character zones** or sub-regions as appropriate.

6.1.3 An **historic landscape character unit's** value is likely to be established at **screening and scoping** level although the rankings may be refined in subsequent **simple** or **detailed assessments** as the local **historic landscape** character becomes better understood.

Producing maps of historic landscape character for use in HLA

6.1.4 **Historic landscape character units** are assigned a value ranking based on the relative contribution of key factors. The resultant analysis provides the basis for assessing how significant the changes are to **historic landscape character units**.

6.1.5 The evaluation system classifies **historic landscape character units** on a five point scale between the two extremes 'very high' value and 'negligible' value. Whilst the process of identifying units at either end of the scale is often likely to be self evident (see for example Figures 6.1 and 6.2), sufficient understanding to classify the vast majority of **historic landscapes** requires careful consideration of a number of factors.

Box 6.1 Mapping capacity to absorb change

Rather than attempting to conserve particular **historic landscapes** for posterity, “what we should be moving towards is recognition that certain places have a greater capacity to absorb change of a certain nature than others” (Rippon 2004).

If the evolution and character of the area’s urban and rural landscapes are understood and analysed early enough, then new development may be more sympathetically planned and designed, drawing benefit from the special qualities of the area whilst protecting and enhancing them (Went et al, 2003, http://english-heritage.org.uk/upload/pdf/hist_env_issues_lscreport.pdf).

The landscape is a dynamic and living entity; change has been the norm, at times radical at others subtle, but ever present at varying degrees through time. This will continue to be the case. The historic environment therefore requires a much wider and more flexible response than just trying to select the best sites or best areas. We believe that the most relevant concept is managing change. This concept must run in parallel with selective heritage protection, but it is more flexible and wider ranging. It allows different growth options and patterns of development to be measured against the capacity of the historic environment to accept such changes in a sustainable manner. (Went et al, 2003).



Figure 6.1 Example of a ‘very high’ value historic landscape character unit © Countryside Agency



Figure 6.2 Example of a ‘negligible’ value historic landscape character unit © Scott Wilson Ltd

6.1.6 Historic landscape sensitivity (value) is guiding the strategy proposed for the M11 London–Stansted–Cambridge Growth Area (Went et al 2003). In this case, English Heritage and its local authority partners developed a value-based ‘sensitivity to change’ model for mapping **sensitivity** of **historic landscape** areas within the M11 corridor. Analysis of the **historic landscape** character patterns, their origins, their **coherence** in the modern landscape and their vulnerability to change (see Box 6.2) provided the basis for a series of **sensitivity** scores. These scores for the M11 case were graded as high, moderate, low-moderate, or low, and allocated to the **historic landscape character type GIS** polygons which, when mapped (see Figure 6.6), provide a **sensitivity** to change baseline model which was used to manage impact on **historic landscape** character. (The M11 corridor study is available at http://www.english-heritage.org.uk/upload/pdf/hist_env_issues_lscreport.pdf)

Box 6.2 Case study - factors in modelling historic landscape character sensitivity (value) to change in the M11 corridor

The **sensitivity** rating should be carefully applied to the local context. Given that **historic landscape** character is as much about local context or **distinctiveness** as it is about identifying specific **rarity** or special interest factors, it is not possible to develop a one size fits all valuation model. Existing models can help to illustrate the kind of relative scale that the method seeks to illuminate.

The M11 corridor study identified **historic landscape** types which remain largely or completely intact in the current landscape, those with traces (relicts) of older landscapes within particular character zones, those with significant single **elements** (e.g. pre-18th century fieldscapes which perhaps contain archaeological earthworks) and palimpsest landscapes (those which exhibit both present and former **historic landscape** character). When mapped the rating (high, moderate, low – moderate and low) provided a baseline model for value that takes account of the following **sensitivity** factors for each **HLC** area:

- Age, **rarity** or special interest
- The history of change (static – little change or dynamic – many alterations)
- The completeness or articulation of the **historic landscape** (its **legibility**)
- The dominance of factors which contribute to the strength of local character.

6.1.7 The M11 corridor methodology is well suited to highways schemes and can be adapted to help determine the paths or areas of least resistance (to change) when considering route options for infrastructure improvements. This approach, further developed for the specific needs of assessments undertaken in accordance with DMRB guidance, is adopted in this supplementary advice.

Box 6.3 Case study - Waltham Abbey Royal Gunpowder Mills

Although not road based, the Waltham Abbey Royal Gunpowder Mills is a good example of a single phase site. The photograph shows the south site, constructed in the 1880s, 44 rectangular drying stoves, surrounded on three sides by blast-



Figure 6.3 The Waltham Abbey Royal Gunpowder Mills.
© Essex County Council.

containing earthworks are apparent. This group of widely-spaced buildings (a measure against accidental explosions) was connected by a canal network which linked them to the north site. These were then replaced by tramways and then roads, all constructed on the same lines. The **HLC** type exhibits a single phase **time-depth**, static since development, a high degree of **legibility**, exceptional local **distinctiveness** and special interest. The site was demolished in 1998.

Factors for establishing the value of each historic landscape character unit

6.1.8 The **historic landscape** specialist should consider the following factors when determining the value of each **historic landscape character unit** that is potentially impacted on by a scheme. The evaluation relies on professional experience and knowledge of the local and regional context. The degree of understanding of the various factors may of course change according to the depth of study undertaken at **screening and scoping**, **simple** or **detailed assessment** levels.

1) Time–depth: Age, rarity or special interest identifies the main periods present in the unit and why they are significant, i.e. a summary of temporal diversity. This is an appreciation of landscape stratigraphy, sequence and palimpsests arrived at through **Historic Landscape Characterisation** and analysis, and it also identifies special factors that may include use, special interest or **rarity**. The modern road network often displays considerable **time-depth**, with route corridors that have sometimes been utilised for millennia

2) History of change (leads to understanding of **fragility** or robustness) can be classified in the following categories:

- Areas that have remained relatively static (little changed through more recent periods of time)
- Areas that have undergone many alterations (dynamic change)
- Areas in which later changes (of any date) have removed significant evidence of earlier stages in landscape development (radical change)
- Areas where later changes are nested within earlier landscapes resulting in composite landscapes or palimpsests (subtle change).

The road network exhibits all these factors in varying degrees and combinations, and understanding the development of the road that is the subject of the study will be an important **element** in assessing the **historic landscape** effects of change.

Box 6.4 Case study - Is Mynydd upland landscape, Dyffryn Ardudwy, Gwynedd

Earthworks of terraced fields, clearance cairns and a hut circle (centre), dating from prehistoric times to the present day, indicate significant diverse **time-depth** in this example. Pasture improvement in modern times has obliterated much of the archaeology in the far field, with stones cleared to form one or two larger cairns reducing **legibility** and resulting in a **historic landscape** that also exhibits subtle change. The landscape retains significant research potential.



Figure 6.4 Is Mynydd upland landscape, Dyffryn Ardudwy, Gwynedd. Photo: Crown Copyright RCAHMW CD 2003-606-043

Box 6.5 Case study - A3 Hindhead Improvements

Literary and cultural sources were comprehensively reviewed and assessed during preparation for the A3 Hindhead Improvements scheme by RPS Planning. The **cultural associations** of Hindhead Common contributed significantly to the evaluation of the **historic landscape** adding important evidence for proposals to re-route the current road and restore the historic **integrity** of the area.



Figure 6.5 Hindhead Hill, JMW Turner (1808), (preliminary drawing)
© Bury Museum and Art Gallery

3) Legibility is the degree to which (and the manner in which) the past (i.e. previous/historic layers of landscape) can be seen, appreciated and understood in the current landscape. It is not necessarily visual but can also be perceptual, using knowledge of what lies below. **Legibility** is not the same as survival or **preservation** but is, of course, related to them.

4) Local character, local **distinctiveness** and local perception are an exploration of what local or regional issues make a **historic landscape** different or distinct and of particular value to the local population, or valued by visitors as special to the locality. Roads are a ubiquitous feature of local **distinctiveness**, as they are usually the means by which residents and visitors travel to and around a locality, and from which they most frequently perceive the landscape. As a result roads cannot fail to have an effect on this perception, albeit this is often an unacknowledged **component** of the experience.

5) Cultural association is defined by historical events, literature, paintings and other works of art, or legends relating to a particular **historic landscape**, and the recognition that these associations play an important part in defining their value.

For example it may be appropriate to preserve the view of Salisbury Cathedral as Constable painted it so that we can stand in the same place and compare the painting and the scene to which it relates. Battlefields and other places related to historical events, such as Runnymede, are considered important because we wish to relate the events to the landform. There may be little of the original land use left, but the topography may remain intact, and we can perceive or reconstruct the way in which the landscape may have affected the events or people that are documented.

6) Research potential may be significant in cases where landscapes are well documented, or are typical examples of little understood historical processes or closely associated with archaeological remains or historic buildings. The potential

for significant new information to emerge from a detailed **historic landscape** study is the key factor. The **HLA** studies associated with road schemes would rarely be the appropriate medium for such detailed research, but the capacity of the relevant **historic landscape character unit(s)** to contribute to identified research priorities should be considered in the assessment of the unit's value.

6.1.9 Factors for establishing the value of each **historic landscape character unit** are then attributed to the relevant **historic landscape character unit** polygon in the **GIS** to provide the basis for rankings which can be mapped and used in the subsequent assessment to determine the significance of the effect of change. These scores, ranked as very high, high, medium, low and negligible are set alongside descriptive texts. Figure 6.6 illustrates an example (based on lowland England rural mixed parkland / enclosure landscape). The example text provided in the table can be replaced by users to record a generic description of the types of **historic landscape character units** which an assessment has allocated to that particular ranking. Depending on the size and complexity of the scheme being assessed the table may be applied to individual types or larger agglomerated zones or even sub-regions for very large-scale studies.

Value Rating	Typical HL units example description (as applied to M11 corridor study) *	Typical design considerations
Very High	<ul style="list-style-type: none"> World Heritage Sites inscribed for their historic landscape qualities Historic landscapes of national or even international importance, whether designated or not Extremely well preserved historic landscapes with exceptional coherence, time-depth, or other critical factor(s) 	<ul style="list-style-type: none"> Relatively complete and predominantly 'static' historic landscapes which are only capable, in principle, of absorbing very limited change without loss of character Particularly sensitive to the cumulative impact of small scale changes. Presumption against development that would not contribute significantly to the maintenance and active conservation of the character and fabric of the historic landscape. Would need to provide exceptional heritage improvements/dividends
Examples: Well preserved historic landscapes demonstrating exceptional coherence and time-depth and/or exceptional rarity and special interest, for example Historic Parks and Gardens listed on EH register in England.		
High	<ul style="list-style-type: none"> Designated or undesignated historic landscapes of outstanding interest Undesignated landscapes of high quality and importance, and of demonstrable national importance Well preserved historic landscapes, exhibiting considerable coherence, time-depth or other critical factor(s) 	<ul style="list-style-type: none"> Less static areas of landscape which are capable, in principle, of absorbing some well-managed changes Sensitive to the cumulative impact of small scale changes Presumption against development that significantly alters the character and fabric of the historic landscape May need to provide some heritage improvements/dividends
Examples: Legible ancient enclosure fieldscapes and early enclosure patterns, some of which may retain visible elements from medieval or earlier patterns may include commons, ancient woodland plantations which have remained essentially unchanged since 18th or 19th century. Well preserved parklands or previously unenclosed lands.		
Medium	<ul style="list-style-type: none"> Designated special historic landscapes Undesignated historic landscapes that would justify special historic landscape designation landscapes of regional importance Averagely well-preserved historic landscapes with reasonable coherence, time-depth or other critical factor(s) 	<ul style="list-style-type: none"> Dynamic landscape in which a mixture of modern and historic elements pre-supposes a capacity, in principle, to absorb most types/scales of essential, well-managed change Desirable that development enhances the residual character and fabric of historic landscape where possible
Examples: Coherent parliamentary enclosure landscapes with some evidence of previous historic landscape character surviving in places. Local area of special interest such as parklands and unenclosed commons.		
Low	<ul style="list-style-type: none"> Undesignated historic landscapes of local importance Historic landscapes with specific and substantial importance to local interest groups, but with limited wider importance Historic landscapes whose importance is limited by poor preservation and/or poor survival of contextual associations Historic landscapes where further investigation would add no significant additional information 	<ul style="list-style-type: none"> High potential capacity to absorb essential change based on former trends towards the removal of the historic dimension Considerable scope for historic landscape enhancement, especially where it is possible to draw on the qualities of adjacent historic landscape character
Examples: Largely rationalised parliamentary enclosure period geometric fieldscapes with significant areas of modern fields resulting from 20th century CAP scheme economics. Landscapes altered in the 20th century through engrossment of land holdings, new landscape features such as major modern roads or retail parks and semi-urban development.		
Negligible	<ul style="list-style-type: none"> Landscapes with no significant historical character or sensitivity 	<ul style="list-style-type: none"> Very little scope for historic environment enhancement
Examples: Almost wholly modern landscapes created through the removal of historic indicators such as extreme boundary loss in modern prairie type fields, or by the wholesale overwriting of previous historic landscape character by mineral extraction, plantations, golf courses, modern airfields or urban expansion.		

Figure 6.6 Value rating for historic landscape and example classification according to a lowland England example © Highways Agency This is a general example and would need to be adapted for road based assessment.

The typical **historic landscape character units** and example descriptions presented in Figure 6.6 are relevant to the particular case study of the M11 Corridor and are provided to demonstrate the relative value of the **historic landscape character units** in that geographic area. The measure is value in the local context, for example, wholly modern landscapes or prairie fields may hold a significant value in certain contexts (see Bradley et al 2004 <http://www.changeandcreation.org/changeandcreation.pdf>).

6.1.10 It should be noted that the M11 study was not undertaken specifically for roads purposes, and it would need to take the contribution of the M11 itself into account in a road based assessment. There would also be need to move from general characterisation to more detailed study to match the stages of road scheme design. Additionally, users should be aware that in this case study there is a tendency to equate the better standard of **preservation** of a **historic landscape character unit** with a higher value rating, this may not always be the case. Poorly preserved **historic landscape character units** may be highly sensitive to change in some cases and well preserved units may be able to accept change readily, possibly depending upon **rarity** and relative size of the units affected.

6.1.11 The value rating for each **historic landscape character unit** should then be mapped in the project **GIS** and will form the baseline model for **historic landscape** 'capacity for change' assessment for the subsequent stage (Chapter 7).

In the M11 corridor example, value / **sensitivity** ratings applied to a number of **historic landscape character zones** were mapped in four grades of **sensitivity** as illustrated in Figure 6.7. For the A46 Newark to Widmerpool road scheme, a similar 4 grade scale was adopted and is illustrated in Figure 6.8.

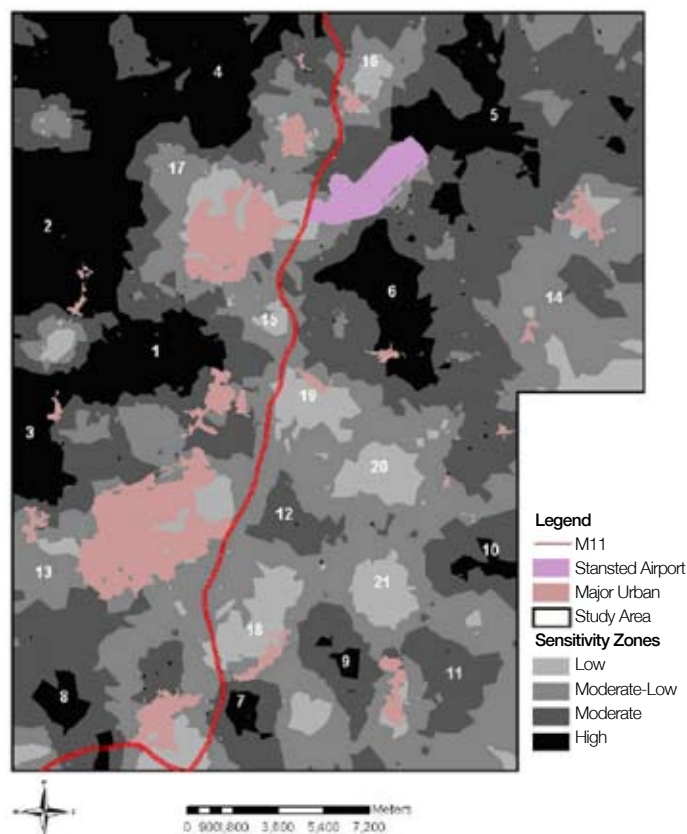


Figure 6.7 Example of HLC sensitivity zones mapped for the M11 corridor – from Went et al 2003 © English Heritage

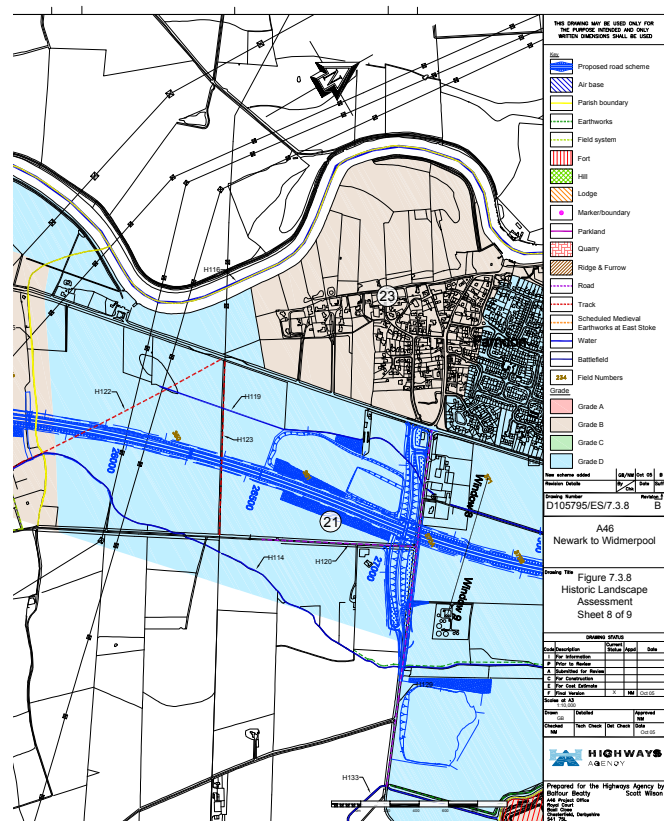


Figure 6.8 Example of HLC sensitivity zones for A46 Newark to Widmerpool © Highways Agency

Other approaches to evaluating historic landscape types

6.1.12 In Wales Cadw utilises an expert-led approach to selecting important **historic landscapes** for inclusion on a national register, followed by a detailed approach to measuring impacts and defining effects according to a detailed and prescribed methodology (Assessment of the Significance of the Impact of Development on Historic Landscapes - ASIDOHL. See Guide to good practice on using the register of landscapes of historic interest in Wales in the planning and development process - Available from <http://www.cadw.wales.gov.uk>).

6.1.13 Due to the absence of a comparable register in England, a similar methodology for assessment work in England may not be appropriate. However, users are encouraged to review the methods as **elements** of the Cadw ASIDOHL system may be applicable to particular cases, for example, when addressing impacts on registered **historic landscapes** in England such as those identified in English Heritage's Register of Historic Parks and Gardens.

6.1.14 A further relevant process for **historic landscape** evaluation can be found in a pilot study of Stratford Town's Urban Edge, carried out jointly by Warwickshire County Council and the Living Landscapes Project. The study is based on the LCA method and proposes the use of landscape description units (LDU) to establish landscape **sensitivity** (including the heritage **component**) for policy planning for Stratford Town's Urban Edge. The LDU approach uses a **sensitivity** analysis (see Figure 6.9), driven by **fragility** and visibility indicators. A matrix format is used to define the capacity of each individual LDU to accept change, followed by a condition/function analysis to define the needs and opportunities for enhancement.

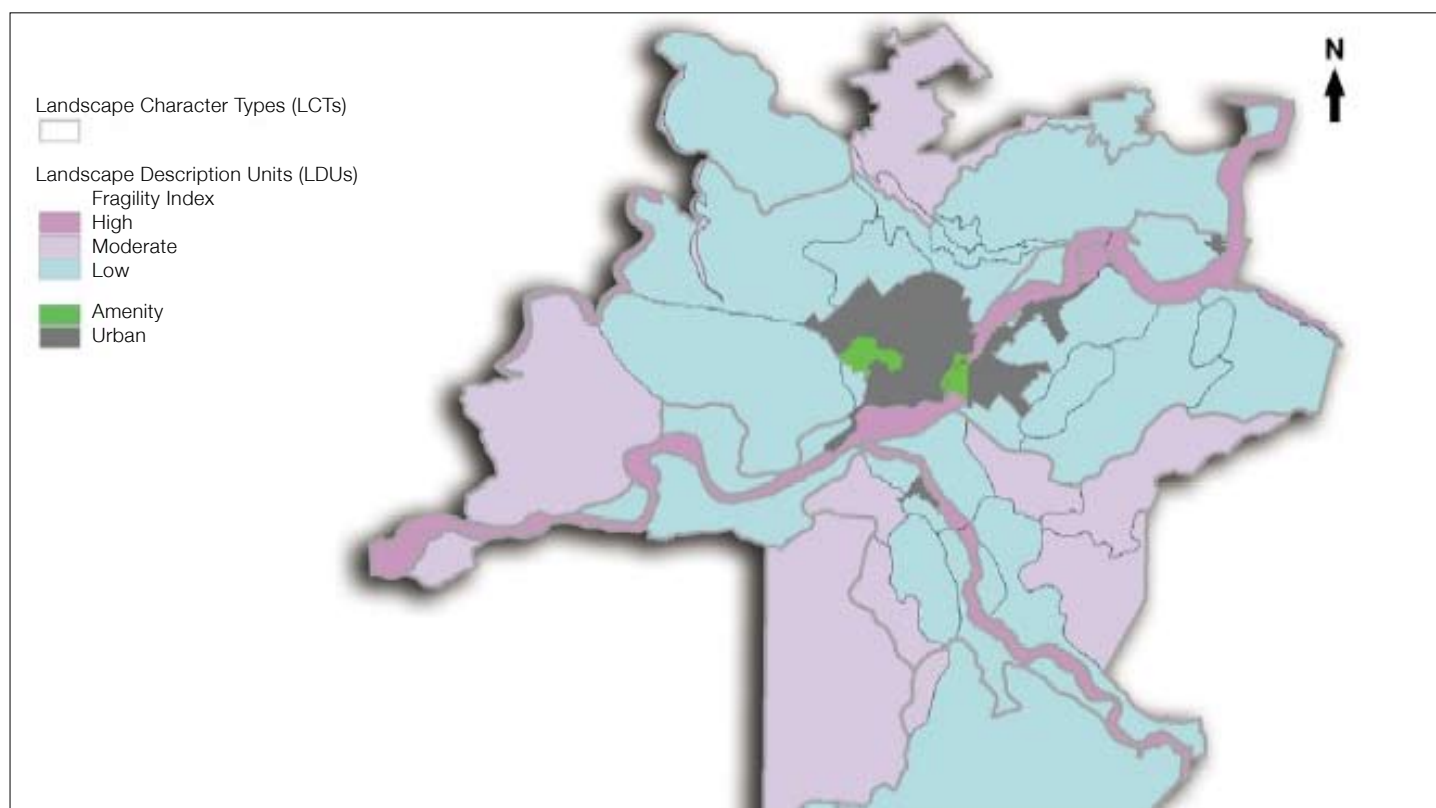


Figure 6.9 Fragility of inherent character in Stratford town's urban edge, from Stratford Town's Urban Edge: A Pilot Study image © Crown Copyright. All rights reserved. Warwickshire County Council, Licence No. 100018285, 2006



Checkpoint: Historic landscape evaluation

- Can the applied value ratings be adequately justified given the local, regional or national context?



7.0 Assessing magnitude of impact (change to HLC)

7.1 Assessing magnitude of impact

Box 7.1 Historic landscape character is changed rather than removed by development

The magnitude of impact on **historic landscape** character describes the scale of change to the **historic landscape character unit** as a result of changes to individual **historic landscape elements** or **components**. **Historic landscape** should not be measured as a physical asset but as a perception (as derived from an appreciation of the factors described in 6.1.8) - it is change to that perception that the **HLA** seeks to identify rather than a physical loss or gain. Loss of features or areas through development are measured elsewhere in the EIA; i.e. the archaeological remains and historic buildings sub-topics will provide details on effects on physical assets (albeit many of which may be contributory factors to the **historic landscape** character). **HLA** needs to consider impact in terms of welcome or unwelcome changes to the value of **historic landscape character units**. A useful check is to ask oneself: would the **historic landscape character units** be valued differently as a result of these changes? Would a unit that was previously highly valued subsequently be identified as one with a lower value rating for instance?

7.1.1 It is worth reiterating that individual **elements** and **components** that contribute to an **historic landscape character type** may comprise, for example, enclosure boundaries, communications routes, settlements and other physical remains of past land-use. It is not changes to these features that are being assessed in **HLA**, as these would be recorded as impacts in the archaeological remains and historic buildings sub-topics. but how these changes, particularly those affecting key **elements** and their inter-relationships, affect **historic landscape** character.

7.1.2 Impacts should be assessed in terms of the requirements of environmental impact assessment regulations, that is, construction, operation, negative and positive, direct and indirect, temporary (long term and short term), permanent, and cumulative impacts. More guidance on this is given in DMRB Volume 11; general applications in Sections 1 and 2, and specific cultural heritage applications in Section 3, Part 2, particularly Annex 7 for **historic landscapes**. The following section looks at some of the effects of change that can result from highways schemes and proposes methods for recording and presenting the process of change (assessing the magnitude of impacts).

7.1.3 One way of approaching the issue is to undertake a before and after analysis. This considers the current historic landscape character and its value and predicts what changes would occur as the result of the proposals. An example of this process is presented in the case study (Box 7.2).

Box 7.2 Case study – A30 Belowda field system

A significant change to a part of an **historic landscape character unit** may have a recognisable effect on the remaining parts of that unit. For example, the severance of a unit by a new highway alignment may affect the **legibility** of the remaining parts to the extent that the type is essentially devalued.

An example of this is the severance of a coherent medieval strip field system by the A30 Bodmin-Indian Queens improvement scheme. Through introduction of the new road alignment the **legibility** and local **distinctiveness** of the **historic landscape character type** has been diminished and the remaining severed areas reduced in value.

The change in this case is recorded as adverse. The smaller severed parts of the field system are likely to be assessed in the future as less valuable as the result of reducing the local **distinctiveness** and **legibility** of the unit. It could be anticipated that in future, therefore, the surviving units would be more vulnerable to adverse change. If the scheme had been able to maintain the **integrity** of the **historic landscape character type** through avoidance, its **legibility** and value would have remained unchanged - a neutral impact.

Effects of change – considering the landscape level

7.1.4 As highlighted, understanding change to **historic landscape** character needs to be considered at the landscape scale. With this in mind it is useful to consider some of the typical, and significant, changes produced by a road scheme.



Figure 7.1 Construction of the M5 motorway in Sandwell, West Midlands dissected the parkland associated with Sandwell Hall (left © Sandwell MBC) leaving the former entrance arch divorced from its context (right © Highways Agency)



7.1.5 Change can occur to important **historic landscape** character patterns through, for example, severance of important field systems or loss of historic communications patterns or severance suffered by designed **historic landscapes**.

Figure 7.2 A46 Improvements, East Bridgeford, Nottingham. The need to avoid a Scheduled Monument complex led to a design option (outlined in red) that impacted on a distinctive pre-parliamentary enclosure field system of small irregular fields (outlined in green) associated with the village of East Bridgeford. © UK Perspectives. Licensed to Highways Agency under UKP Licence UKP/HA/11/04



7.1.6 Intrusive large-scale topographic features like cuttings and embankments and other structures can introduce significant change to **historic landscapes**, reducing **legibility** and producing **fragmentation** of **historic landscape character units**, leading to an erosion of their significance.

Figure 7.3 Cutting through chalk grassland at Twyford Down, near St Catherine's Hill outside Winchester, as part of the M3 development, severed a landscape of significant archaeological, spiritual and ecological interest. © Highways Agency



7.1.7 Road scheme improvements can lead to urbanisation and change to rural areas through new infrastructure, increased traffic, noise pollution, road lighting, street furniture, and subsequent development. These changes can often adversely affect **historic landscape** character.

Figure 7.4 Increased urbanisation in rural area. A617 Derbyshire. © Highways Agency



7.1.8 Whilst the examples above are usually associated with unwelcome change, highways design also has the potential to positively affect the local **historic landscape** character. Bypasses, for example, can improve the local **historic landscape** character of a town or village. These changes would be reported as beneficial impacts on **historic landscape** character where appropriate. There may, of course, be direct negative impacts in the area of the bypass, or indirect impacts, such as facilitating the spread of development.

Figure 7.5 Bypasses may introduce welcome change to local historic landscape character where existing urbanisation and traffic impacts are removed or reduced. A47 Thorney Bypass. © Highways Agency

7.1.9 The assessment should describe the impact of the scheme on the key aspects of the **historic landscape** characteristics and draw this together into an overall description of the change to **historic landscape** character. The impact, **mitigation**, description of changes and significance of effect can be presented in table format such as that shown in Appendix 1. Guidance on completing this particular assessment table is provided below and if other formats are used they should cover the same sort of factors. It may be appropriate to produce a table for each **historic landscape character unit** affected by the scheme in some cases, in others a scheme-wide approach may be more efficient. The scale of change may be illustrated through use of photomontages and 3D models (see Chapter 9 of this guidance).

Completing an assessment table (see Appendix 1 for worked example)

Column 1 - Historic landscape character unit: description and value

Enter a brief description of the **historic landscape character unit**, its key attributes and the value of the **historic landscape character unit**, as guided by the evaluation criteria. The **elements** that contribute to the historic character should be clearly identified.

Column 2 - Source of impacts

The sources of change should be recorded for each unit (refer to Table 7.2 in Annex 7 of Section 3, Part 2 of DMRB Volume 11). These sources of change are provided as a guide. Not all sources will apply to all cases and others may be added to the list as necessary.

Column 3 - Nature of impact

Record the details of impacts, related to the key attributes identified in Column 1.

Column 4 - Direct effects

Column 5 - Indirect effects

Refer to Annex 7 of Part 2 of Section 3 of DMRB Volume 11 for discussion of direct/indirect effects. Effects should be described taking account of agreed **mitigation**.

Mitigation measures that have been incorporated into the design or outline measures that will be put in place at a later detailed design stage should be noted. It is important to draw attention to **mitigation** that has a multipurpose role, such as woodland planting. Planting may be proposed to screen local properties for visual impacts but should be of a specific type designed to integrate with, or enhance, the **historic landscape** character.

Column 6 - Magnitude of impact

The magnitude of change is reported in accordance with DMRB Volume 11 Cultural Heritage Annex 7 (Historic Landscape Sub-topic). The description must include the magnitude of change on the scale major, moderate, minor, negligible, no change.

Column 7 - Significance of effects

The significance of effects is reported in accordance with DMRB Volume 11 Cultural Heritage Annex 7 (Historic Landscape Sub-topic). The description must include the grading of the significance of effects on the scale: very large, large, moderate, slight, neutral. These can be adverse or beneficial.

Box 7.3 Classification of impacts

DMRB Volume 11 Cultural Heritage Annex 7 (Historic Landscape Sub-topic) provides advice on the classification of the following impacts:

- Construction
 - Operation
 - Direct
 - Indirect
 - Temporary / long term
 - Cumulative effects
- N.B. Impacts may be reversible or irreversible.

7.1.10 When undertaking the assessment of the scheme it is important to cross-reference the **HLA** and if necessary support assumptions with data from other topics. A guide to data that may be relevant is listed in Box 7.3.

Box 7.4 Topic interaction check list

When undertaking the assessment the following data from other topics may need to be reviewed and analysed.

- Engineering design and construction methods
- Landtake plans and descriptions
- Calculated noise contours (all years)
- Environmental masterplans
- Cultural heritage features plans
- Zones of visual influence and visual receptors (winter/summer/day/night)
- Properties and rights of way within the visual envelope
- Landscape presentation drawings (landscape **mitigation**)
- Land-use drawings (existing environment)
- Topography drawings (relief and contours)
- Planning constraints drawings (designations and utilities)
- Visual considerations drawings (PROW and vantage points)
- **Landscape Character Assessment (LCA)** drawings
- Landscape quality drawings
- Nature conservation designations
- Lighting and VMS/route signage proposals.



Checkpoint: Assessing magnitude of impact (change to historic landscape character)

- Has the assessment of impacts been properly cross-referenced to the results of other topic studies to ensure consistent use and interpretation of data?
- Double check that the assessment is focussed on change to **historic landscape character units**, while taking into account cumulative changes to individual features that are important in defining the area's historic character.



8.0 Mitigation design – managing change

8.1 Integration and enhancement

8.1.1 Mitigation design goes hand in hand with a scheme's impact assessment and should be considered from the outset. Two key objectives should remain at the forefront of the design process from the very early stages: integration and enhancement. The **historic landscape** is dynamic and the objective of a successful design is not to preserve at all costs but to be guided by the capacity of the **historic landscape** to absorb change, and thereby produce a design that as far as possible, respects **historic landscape** character and uses the range of **mitigation** options to best effect. DMRB Volume 10 contains many examples illustrating good and bad practice.

8.1.2 Highways and structural engineers and other environmental specialists should be briefed early in the design process by the **historic landscape** specialist on the types of design measures that can help achieve a sensitive design. As highlighted in Figure 8.1 there is less opportunity substantially to mitigate adverse effects on **historic landscape** character once a design has progressed to a detailed stage. **Mitigation** largely relies on influencing engineering design and **mitigation** measures proposed for other topic areas. The key point of influence is early in the project lifecycle when vertical and horizontal alignment issues may still be fluid and key design guidelines on issues such as boundaries, structure design and appearance, lighting and other highway furniture can be discussed and agreed. This can be usefully achieved through production of a design brief as part of the output of the **screening and scoping** stage (see Box 8.2).

8.1.3 Care should be taken to liaise closely with ecologists, landscape architects, and other cultural heritage sub-topic specialists to ensure that other environmental **mitigation** design integrates with and enhances the **historic landscape** character where appropriate. The **HLA** design brief may be the basis for auditing the design against stated cultural heritage objectives.

EIA/environmental design stage	Typical scheme design stage	HLA influence	HLA Output
Preliminary assessment (Screening and scoping)	Horizontal and vertical alignment on options	High	Issue historic landscape design brief
Simple/detailed assessment – outline mitigation design – ES	Preferred alignment known, outline design (some flexibility remains)	Medium	Contribution to outline design and ES (if required)
Detailed mitigation design	Detailed earthworks and structures design	Lower	Contribution to detailed design

Figure 8.1 - Importance of scheme stages and historic landscape mitigation

Mitigation in practice

8.1.4 For most change-sensitive **historic landscape character units** the best **mitigation** lies in designing projects to avoid affecting these areas in the first place. The analysis outlined at **screening and scoping** should have guided the preferred design to this solution where appropriate.

8.1.5 For example, a widening proposal (at grade) involving a mature single lane highway may adopt a core design measure to retain an existing boundary (i.e. an asymmetrical widening option) to ensure that disruption to **historic landscape** character patterns are minimised. A further step can be taken, if feasible, in these cases with a retained boundary forming a wide central reservation. Such measures need to be carefully weighed against increased land cost and other issues, but where feasible, may present an opportunity for successful integration. Practical **maintenance** considerations should not override **historic landscape** considerations in sensitive areas.



Figure 8.2 Benefit of asymmetrical widening and retention of existing boundary as central reservation in dual carriageway design – Left A417. A retained mature central reservation may help to integrate roads into their historic landscape surroundings © Halcrow Group Limited – Right - A46 Leicester © Scott Wilson Limited.



8.1.6 The A55 expressway in North Wales adopted a submerged tunnel solution to ensure that the highly sensitive **historic landscape** and townscape associated with Conwy Castle was unaffected visually, thereby avoiding significant changes.

Figure 8.3 A55 Expressway. The decision, taken in 1980, that the A55 trunk road should cross the River Conwy in a tunnel (here under construction) rather than by a bridge hard up against the world famous late thirteenth-century castle preserved both the spectacular setting of the castle and the essential cohesion of the Creuddyn and Conwy historic landscape. Photo: Crown Copyright RCAHMW 88-CS-195

8.1.7 When avoidance is not possible, and adverse effects on **historic landscape** character are predicted, the aim of **mitigation** should be to minimise changes to the **legibility** of the **historic landscape** adjacent to the scheme and, where change is necessary, to ensure that the design respects the **historic landscape** as far as possible. It is possible to define a number of core principles on which specialists can draw in developing their design. These can be loosely grouped in the following categories:

- Integration
- Enhancement
- **Restoration, reconstruction, repair and conservation**
- Compensation.

Box 8.1 Case study - A470 Dolwyddelan to Pont-yr-Afanc Improvement.

This 7.2km length of the A470 in the Snowdonia National Park follows a winding alignment along the steep valley of the River Lledr. Improvements to the narrow carriageway had the potential to disrupt sensitive **historic landscapes**, but by using lower design speeds in accordance with the design guide 'Roads in Upland Areas', a balance was struck between the engineering needs of alignments and visibility and the environmental aspects. Primary **mitigation** therefore was to reduce the footprint of new works as far as possible, but design details also strongly affect



Figure 8.4 A470 trunk road between Dolwyddelan and Pont-yr-Afanc. © Colin Leftley.

the way any road relates to its surroundings, so avoiding visual intrusion from highway furniture and adopting local materials were important. Parapet walls clad in local stone replaced metal safety fences, and kerbs have only been used where essential for safety or drainage. New rock cuttings have been carefully shaped to achieve a natural appearance. Stone walling was constructed under the supervision of a Dry Stone Walling Association Master Mason and riven oak post and wire fences reflect local **historic landscape** character.

Integration

8.1.8 Good integration with **historic landscape** character can be achieved through adopting sensitive vertical and horizontal alignment and looking at options to minimise impacts caused by structures. The scheme's horizontal and vertical alignment should aim to avoid disrupting significant **historic landscape** character patterns where appropriate. For example, new build or widening schemes should consider how roads could be routed around or between adjacent **historic landscape character units** or along the edge of a surviving field system or along the edge of a valley bottom water meadow.



Figure 8.5 Good use of horizontal and vertical alignment respecting adjacent historic landscape character unit boundaries. Left © Highways Agency. Sensitive use of an open form structure to help preserve historic landscape character of water meadows. Right © Highways Agency.



Figure 8.6 The A2 corridor at Vinkeveen, Netherlands respects the local historic landscape type both horizontally and vertically utilising the grain of the historic dyke drainage pattern. © Aerophoto-Schiphol



Figure 8.8 Differential vertical alignment M5 two split carriageway sections south of Bristol © Halcrow Group Limited.



Figure 8.7 Sensitive vertical alignment that respects the topography of the local historic landscape. Left A5. Right A46 north of Leicester © Scott Wilson Limited.



Where possible, consideration should be given to differential vertical alignment on opposing carriageways. A number of examples are provided in Figures 8.5 – 8.8. The effect of side road modifications can sometimes be disproportionately intrusive, as they can be of poor, engineering standards driven, design and significantly add to the lateral impact of schemes on **historic landscape** character.

8.1.9 Consideration can also be given to cut and cover tunnels with green bridge roles to maintain / reconnect historic motorised and non-motorised routes and provide opportunities for appropriate replacement vegetation. A cut and cover option was used to maintain historic connections between the important **historic landscape** of Epping Forest and the local community. The construction of the A21 Lamberhurst bypass includes a land bridge or green bridge which carries the access drive to the National Trust's Scotney Castle park and gardens over the bypass. The bridge not only carries the drive but is wide enough for planting on each side which provides a corridor for wildlife over the bypass.



Figure 8.9 Left: Aerial photograph of M25 Bell Common, near Epping - cut and cover tunnel. © Highways Agency.
Right: Proposed land-bridge A21 Lamberhurst. © Highways Agency.

8.1.10 Further integration with **historic landscape** character can be achieved through new or replacement planting. The **mitigation** strategy should ensure that new or replacement planting (refer to landscape assessment) is complimentary to the **historic landscape** character. For example, conifers may provide the best screening but may not integrate well with the local **historic landscape** character.

Enhancement

8.1.11 Enhancement opportunities for major design measures should be considered where a scheme faces highly sensitive **historic landscape** issues. For example, tunnels have been considered for both the A3 and A303 schemes not only to avoid visual intrusion on highly sensitive **historic landscapes** but also to provide the opportunity for significant enhancement or **restoration** designs.

The A3 Hindhead Improvements design solution allows for the **restoration** of the historically important Hindhead Common landscape.

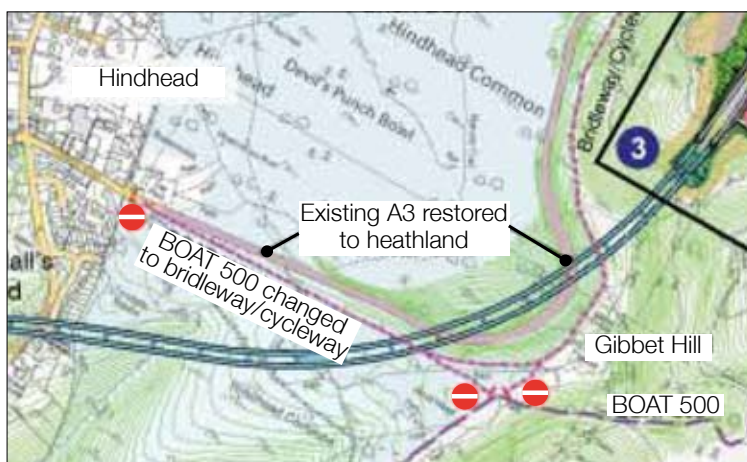


Figure 8.10 The A3 Hindhead scheme (left) will restore the existing road to heathland as the new alignment will be in a tunnel. This will provide an important benefit to the local historic landscape restoring the current congested road (right) to a bridleway in keeping with the historic character of the common. © Highways Agency.

8.1.12 The enhancement of local **historic landscape** character can be achieved through use of local materials and traditions in boundaries, other infrastructure and appropriately designed environmental **mitigation**. Wherever possible, suitable materials should be used to integrate the scheme with existing **historic landscape** character. Locally sourced materials help to minimise the effect of new landforms and structures.



Figure 8.11 Use of local materials to integrate highway improvement scheme. Left - A419 Cotswold stone walls. Right - A470 trunk road between Dolwyddelan and Pont-up-Afanc. © Halcrow Group Limited

Restoration, reconstruction, repair, conservation

8.1.13 Where there is the opportunity to do so, scheme designs should identify and recommend design measures that reverse existing impacts on the **historic landscape**. This may include opening up historic features to view or downgrading or removing existing impacts. A common example arises where a bypass proposal would enable the **restoration** of a **historic landscape character unit** previously blighted by highway infrastructure.



Figure 8.12 (Left and right) The busy A46 trunk road in Nottinghamshire passes through a highly sensitive historic landscape including a conservation area, an ancient parkland and a registered battlefield. Opportunities to reduce traffic and remove existing safety features and create access opportunities would significantly enhance the local historic character. © Scott Wilson Ltd / Balfour Beatty



Figure 8.13 Example of traffic calming
© Highways Agency.

8.1.14 Restoring **historic landscape** character can include measures such as traffic calming and may be appropriate to a newly bypassed village.

8.1.15 One question that may arise during **mitigation** design is: when is it appropriate to recreate characteristic forms to help integrate a scheme with the surrounding **historic landscape** character and thereby help to minimise the effects of change? There is no absolute response to this, as it is likely that each instance would be scheme-specific and a matter of professional judgement.

The definitions of **restoration**, **reconstruction**, **repair** and **conservation** are given in the glossary, and all (except possibly **conservation**) entail some loss or invasion of authentic material, or would compromise original resources. This may be acceptable or desirable where the outcome is an improvement of **historic landscape coherence**, or other valuable factor, but such proposals should always be balanced against any negative effects caused by the loss of original fabric. Reconstructing dry stone walls from the ruins of the originals may, for instance, recreate the original patterns of fields, and would continue a tradition of **repair** and **reconstruction** that these walls would have experienced when in everyday use, but against this must be balanced the potential loss of archaeological information contained in the ruins, the contribution that ruins themselves make to **historic landscape** character, and the fact that the ruins may authentically represent the state of the present economy and agricultural management regimes. Ruination is part of the normal trajectory of abandoned fields. Any proposals to undertake **reconstruction**, **repair** or **restoration** should be discussed with the relevant specialists and consultees.



Compensation

8.1.16 **Historic landscape** compensation opportunities may be possible through off-site works associated with replacement land schemes such as open space provision, or replacement habitat. Where these are proposed, the design should take account of the **historic landscape** context and respond accordingly.

Figure 8.14 An aerial view of the lagoons and reedbeds of the Gwent Levels wetland reserve created to replace habitats lost when the Cardiff Bay barrage was constructed. The reserve has been successfully integrated into the pattern of the Gwent Levels historic landscape. Photo: Crown Copyright RCHAMW 2001-CS-1374



8.1.17 Where proposals include the unavoidable loss of characteristic features or historic vegetation, off-site **mitigation** may be appropriate. For example, ancient woodland soil was translocated to adjacent sites and new woodland established as part of the Channel Tunnel Rail Link (CTRL) **mitigation** at Godinton Park, Ashford, Kent. The new woodland areas complement the existing ancient woodland and provide a natural noise and visual barrier.

Figure 8.15 Example of additional woodland creation at Godinton Park. The area in the foreground of the picture has been replanted with relocated ancient woodland soil to complement the existing ancient woodland. Photo courtesy of Union Railways.



Figure 8.16 Example of where a severed hedge pattern or field wall pattern could have been restored, thus lessening impact of highway on HLC. © Highways Agency.



Figure 8.17 Hedgerow replacement on the A38 near Plymouth © Scott Wilson Limited.

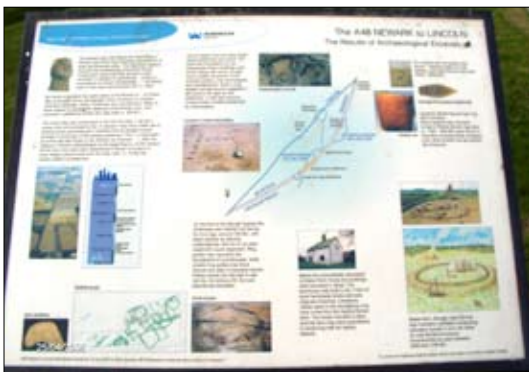


Figure 8.18 A46 rest stop information board at Newark, Nottinghamshire © Scott Wilson Limited

8.1.18 Where a new highway severs an existing **historic landscape** pattern such as a field system, opportunities to recreate the pattern of lost **elements** should be investigated. For example, integration may be aided by replacing severed or truncated field boundaries in a style suitable to the local character. New boundaries have traditionally been created beside roads cut through existing field patterns. Figures 8.16 and 8.17 respectively demonstrate cases where replanted hedges or walls may have been advantageous and where replacement strategies can provide cohesion (this qualifies advice given in the 1992 DMRB Volume 10, Section 1, Part 3).

Other issues

8.1.19 Provision of information (booklets, brochures, videos, exhibits and notice boards) can be made available to the public to assist in disseminating information on **historic landscapes**.

For example, the HA have produced an information board at a rest stop on the A46 Newark - Lincoln scheme to inform travellers about the local **historic landscape** and archaeological finds made during construction.

Box 8.2 Checklist for historic landscape design brief

Horizontal and vertical alignment

Horizontal and vertical alignment that minimises disruption to existing **historic landscape** patterns and avoids severance issues should be optimized where possible.

Use of non-essential earthworks

False cuttings can be used to minimise visual intrusion, whereas landscape bunds are often used as noise and visual barriers. There is a need to ensure that they do not introduce adverse effects on local **historic landscape** character. Consideration should be given to where they can be used to integrate with or enhance **historic landscape** characteristics.

Treatment of embankments (grading, tapering)

The intrusive nature of over-bridge earthworks in an open landscape can be minimised through grading where appropriate. Planting of earthworks may also help reduce the intrusive nature of embankments.



Figure 8.19 Halgavor Bridge A30. © Highways Agency

Planting / visual screening (vegetation)

Care needs to be taken to ensure the appropriateness of the form and species of proposed planting.

Structures (sympathetic design, materials and form)

Consideration to the position, design, colour and architecture of proposed structures needs to be given. Consideration should be given to structures that could be more sympathetic to sensitive **historic landscape** surroundings.

Landmark structures

Landmark structures, if sympathetically designed, may well provide effective **mitigation** for local **historic landscape** character (e.g. green bridges or architect designed structures to maintain historic connections).



Figure 8.20 Example of VMS sign on the A1M. Becca Bank on the left of the picture is a Scheduled Monument. The picture clearly shows the close proximity of the VMS to Becca Bank. © RPS

Position and number of supplementary structures, VMS signs and gantries

In sensitive locations, careful design and management will be needed to ensure that highways do not introduce unnecessary visual pollution and urbanisation to **historic landscape** character. Consider carefully with traffic engineers how best to position and minimise effects of traffic management infrastructure.

Treatment of boundaries

Consideration needs to be given as to how highway boundary treatment may help a scheme integrate with or enhance local **historic landscape** character.

Line markings, central reservations, verges and lighting

There is a need to balance safety requirements with **historic landscape** character **sensitivity** to minimise urbanisation of highways in sensitive areas.

Treatment of side road tie-ins and diversions

Avoid where possible the over-engineering of essential side road or other associated infrastructure.

Advice on departures from standards

Liaise closely with project engineers to establish if a departure from normal highway standards would be acceptable to help integrate a scheme into local **historic landscape** character. For example verge treatments may be downgraded, or standard lighting or boundary treatments varied.

Conservation options

8.1.20 Certain **conservation** actions may be appropriate to include within the **mitigation** design by contributing to local **historic landscape** management plans, for example repairing adjacent field boundaries or hedges. These may include historically distinctive types of walls, hedgebanks and hedgerow with characteristic species and styles of management that need to be reflected in design detail.

Temporary construction works

8.1.21 The **mitigation** design should seek to ensure that any land taken temporarily for construction contains a robust strategy for the reinstatement of land, including avoidance of impacts on historic assets such as boundaries, old trees, hedges, etc. Reinstatement should seek to complement the local **historic landscape** not cause further disruption through land-use change if avoidable.

Historic landscape design brief

8.1.22 Box 8.2 provides a checklist for preparing a design brief for other specialists. It is recommended that this is prepared during **screening and scoping** in order to maximise the opportunities for sensitive design measures.



Checkpoint: Mitigation design – managing change

- Have all parts of the design been carefully assessed against the **historic landscape** design brief to ensure that there is an auditable decision trail?
- Can the proposed **mitigation** measures be monitored to inform future decision making?
- Have the relevant local and / or statutory consultees been fully briefed and had the opportunity to put their views and contribute ideas for **mitigation**?
- Has the guidance in DMRB Volume 10 been taken into account?



9.0 Significance of effects and reporting

9.1 Significance of effects

9.1.1 For road schemes there is a wide variety of developments, ranging from a change of lighting at an urban intersection to major road schemes across rural landscapes. Some of the changes represented by these developments may fit well with some **historic landscape character types** and not with others, and this is established by assessing the magnitude of the impact – ie the scale of the change to the **historic landscape** character. The question of how much the change matters is answered by assessing how valuable the original **historic landscape character unit** is before the change and how large a change it experiences – and whether this is a change for the better or worse and how much it matters. In this advice this is achieved by taking the value of the existing **historic landscape character type**, assessing the scale of the impact (change) visited upon it (positive or negative), and combining these to arrive at a view on the significance of the effect of the proposal in accordance with DMRB Volume 11 Cultural Heritage Annex 7 (Historic Landscape Sub-topic). <http://www.standardsforhighways.co.uk/dmrbl/index/htm>

9.1.2 The final significance of effects assessment utilises the matrix table as provided in DMRB Volume 11, reproduced below (Figure 9.1) and cross-references the value/sensitivity of the **historic landscape character unit** and the magnitude of impact on the **historic landscape character unit**.

Value/Sensitivity	Very High	Neutral	Slight	Moderate/ Large	Large/ Very Large	Very Large
	High	Neutral	Slight	Slight/ Moderate	Moderate/ Large	Large/ Very Large
	Medium	Neutral	Neutral/ Slight	Slight	Moderate	Moderate/ Large
	Low	Neutral	Neutral/ Slight	Neutral/ Slight	Slight	Slight/ Moderate
	Negligible	Neutral	Neutral	Neutral/ Slight	Neutral/ Slight	Slight
		No Change	Negligible	Minor	Moderate	Major
Magnitude of Impact						

Figure 9.1 Matrix of effects

9.1.3 To assist and illuminate this process a suggested assessment table format is provided in Appendix 1. Column 7 of this table focuses on the **historic landscape character unit** used for the assessment and is designed to draw together a summary description of the key impacts, taking into account any agreed **mitigation** measures set out in Column 5. Column 8 records the significance of that effect using the matrix shown at Fig. 9.1.

Reporting

9.1.4 It is recommended that the final assessment documentation includes an illustration of how the scheme will either beneficially or adversely affect the **historic landscape** character. This may be achieved by preparing photo-montages (see Figure 9.2) or 3D models with overhead aerial or oblique perspective (Figure 9.3) to demonstrate how the predicted changes would appear at scheme completion and at specific intervals. Outputs must be produced in close association with the landscape team and other specialists as appropriate who are most experienced at producing effects assessments to established technical and professional standards.



Figure 9.2 Photomontage of Stonehenge from King Barrow Ridge. Photo A shows existing view. Photo B shows opening year winter. © Halcrow Group Limited.

9.1.5 There may sometimes arise the question of how to report schemes that would have both a beneficial and an adverse effect, usually on different **historic landscape character units**. For instance, a bypass may improve the **historic landscape** character of the village being bypassed, but diminish the value of the rural area adjacent to it. If



Figure 9.3 An example of an oblique 3D model image demonstrating the effect of scheme on historic landscape of the A46 project (year 15). © Scott Wilson Limited.

both were “moderate” effects – moderate adverse and moderate beneficial – and these scores were balanced against one another to produce an overall neutral effect, it might appear that there was no issue to be concerned about. But such a score would also result from a do nothing scenario – no change equals no impact – but clearly the result of the proposal would be very different to doing nothing. In these sorts of cases the differences in the significance of the effects on different resources should be clearly identified, and a judgement made regarding what are the overriding considerations. Such a judgement should be clearly stated, giving the factors that were taken into account, and the reasons for the final assessment. The report must also draw attention to any **historic landscape** issues that were relevant in the final choice of route or alignment over other alternatives.

9.1.6 The results of any original **historic landscape** research should be made available to the local SMR or HER and also fed back to EnvIS or other relevant databases.

Box 9.1 Case study - Effects on Registered Park and Garden - A46

A fully rendered 3D model flythrough helped demonstrate the effects of a proposed footbridge considered as part of online carriageway improvements for the A46 in Nottinghamshire during public exhibitions. The model helps put the scale of the proposed bridge in proportion to the scale of the adjacent historic landscape **setting** and also demonstrates the screening effects of an existing planted boundary. Proposed **mitigation** included painting the bridge green and optional additional planting to address the cumulative impacts of the widened road and new layby (which were to be agreed with the landowner). The overall effect of the scheme on the historic landscape **character unit** (considering that only a small area of landtake was required for construction of the footbridge and none for the road improvements themselves) was assessed as slight adverse in accordance with DMRB Volume 11 Cultural Heritage Annex 7 (Historic Landscape Sub-topic) criteria.

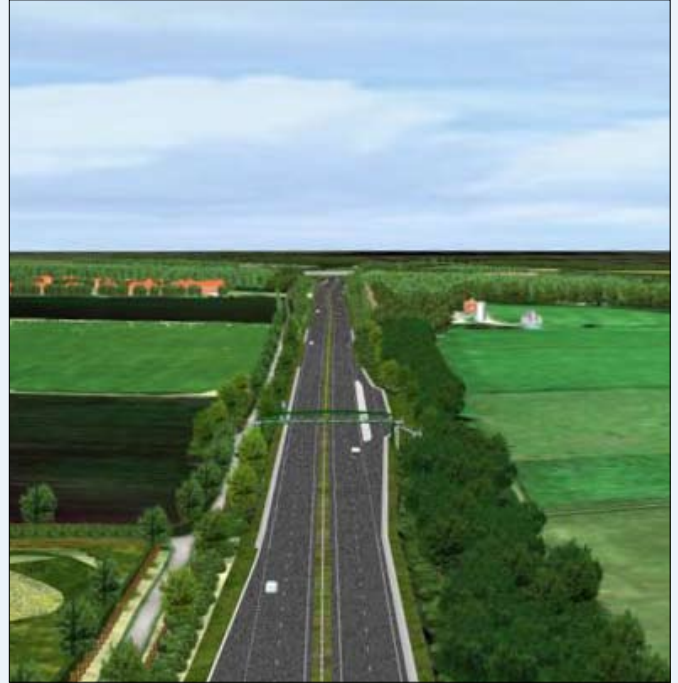


Figure 9.4 Oblique 3D model image demonstrating the effect of a proposed footbridge and road widening for the A46 project. © Scott Wilson Limited.



Checkpoint: Significance of changes and reporting

- Ensure that the overall significance of effects is focussed at the relevant scales for each stage of the development of the project.
- Use the table in Appendix 1 to build up a robust record of how impacts, **mitigation** and value lead to a transparent argument for recording the significance of the overall effect.
- Use illustration where possible to allow readers to visualise the scale of change and keep discussions over acceptable change in proportion, particularly when dealing with highly valuable **historic landscape units**.



10 Glossary and further reading

10.1 Glossary

TERM	EXPLANATION
Authenticity	The condition of assets where the constituents and their arrangement are as originally intended.
Capacity to Absorb Change	The capacity of an <i>historic landscape character unit</i> to be altered without fundamentally altering its historic character.
Coherence	The integration and interrelationships (temporal, spatial or functional) of aspects and values of <i>historic landscape character</i> .
Component	Larger agglomerations of parcels such as dispersed settlements or straight sided field systems. These combine to form <i>historic landscape types</i>
Conservation	conservation – the process of managing change to sustain the significance of inherited historic assets, for current and future use and enjoyment
Cultural Association	Significant reference to or representation of an <i>historic landscape</i> in literature, art, poetry, song etc ie the creation of values in an area of landscape by activities, depictions etc.
Detailed Assessment	The objective is to gain an in-depth appreciation of the beneficial and adverse consequences of the project. Such assessments may require detailed field surveys and/or quantified modelling techniques and may be examined at public inquiry. <i>Detailed assessment</i> would be associated with topics that have the potential to cause significant impacts on environmental receptors. Early stakeholder consultations are important in the project development process.
Distinctiveness	The combination of characteristics (in this context historic ones) that allow one area to be distinguished from another.
Element	The smallest item(s) of an <i>historic landscape</i> that contributes to its significance. Examples include a hedge, lawn, specimen plant, house, meadow or open field, fence, wall, earthwork, pond or pool, bollard, orchard etc. They combine to form <i>parcels</i>
Fragility	Measure of the ability of a <i>historic landscape character type</i> to accept change (see <i>sensitivity</i>)
Fragmentation	The process of disaggregating <i>historic landscape types</i> into <i>components</i> separated by non-significant later <i>elements</i> .
Geographical Information System (GIS)	A GIS is a computer system capable of capturing, storing, analysing and displaying geographically referenced information, that is, data identified according to a location.

TERM	EXPLANATION
Historic Landscape	Historic landscape is an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors (European Landscape Convention, Council of Europe 2000). Historic landscape is defined by perceptions that emphasise the evidence of past human activities in the present landscape
Historic Landscape Assessment (HLA)	The combination of characterisation, evaluation and a study of the impacts and <i>mitigation</i> options of a Proposed scheme development to determine the overall significance of effects of development on historic landscapes. It is a sub-topic of the Cultural Heritage topic in DMRB Volume 11
Historic Land-use Assessment	The Scottish process of characterisation analogous to <i>Historic Landscape Characterisation</i> in England.
Historic Landscape Characterisation (HLC)	The process of identifying the predominant historic character of the present landscape and reaching an understanding of how it came about.
Historic Landscape Region	The combination of Historic Landscape Zones, typically involving many counties.
Historic Landscape Sub-Region.	A large tract of land, typically county or wider, formed of an agglomeration of <i>Historic Landscape Zones</i> . These combine to form <i>Historic Landscape Regions</i>
Historic Landscape Character Type	Distinctive and repeated combinations of <i>components</i> defining generic historic landscapes such as ancient woodland or parliamentary enclosure. These can be agglomerated to form <i>Historic Landscape Zones</i>
Historic Landscape Character Unit	A term used generically in this document to refer to a type, zone or sub-region.
Historic Landscape Character Zone	Characteristic combinations of types, such as Anciently Enclosed Land (a Cornish zone) or Moorland and Rough Grazing (a Scottish zone). These combine to form <i>Historic Landscape Sub-Regions</i>
Integrity	Where the various aspects of an area's character can be perceived as forming a more or less consistent whole, eg (but not exclusively) deriving from one period, or reflecting one set of historic processes
Landscape Character Assessment (LCA)	An umbrella term for description, classification and analysis of landscape. Landscape character is the distinct and recognisable pattern of <i>elements</i> that occurs consistently in a particular type of landscape, and how this is perceived by people. It reflects particular combinations of geology, land form, soils, vegetation, land-use and human settlement. It creates a particular sense of place of different types of the landscape.
Legibility	The degree to which (and the manner in which) the past can be seen, appreciated and understood in the landscape. Legibility is perceptual, relying on the ability to 'read' the historic significance of surviving landscape features.
Maintenance	Routine work necessary to keep the fabric of historic assets in their existing condition, preventing or inhibiting the development of decay, but not involving <i>repair</i>
Mitigation	Actions or designs to lessen adverse impacts of a scheme
Parcel	<i>Elements</i> combined to produce, for example, farmsteads or field. These combine to form <i>components</i>

TERM	EXPLANATION
Preservation	Actions to halt or slow the deterioration of assets that would otherwise continue. It entails the avoidance, as far as possible, of physical interference, so that original materials are retained intact and untouched in situ (a special case – “preservation by record” – refers to the removal of the asset, reporting analysis publication of the results by archaeologists). <i>Preservation</i> can be achieved through <i>maintenance</i> or <i>repair</i> .
Rarity	The frequency of occurrence of a particular set of attributes. Although all <i>historic landscapes</i> are by definition unique, certain character types may be repeated within a region or nationally giving rise to a measure of rarity.
Rebuilding	A general term for the complete or partial replacement of a building or artefact, through <i>repair</i> , <i>reconstruction</i> , <i>replication</i> or <i>restoration</i> .
Reconstruction	Goes beyond <i>repair</i> or <i>restoration</i> in re-creating what no longer exists. It is speculative to the extent that physical and documentary evidence has to be supplemented with logical deduction or intelligent guesswork, often based on known parallels.
Repair	Reversing changes caused by decay, damage or use, taking an asset back to a readily known condition before the defect occurred but not involving <i>restoration</i> .
Replication	Makes an exact copy or facsimile of all or part of an historic asset.
Restoration	Makes an historic asset conform to its known design or appearance at an earlier time. It is achieved by altering or replacing what has decayed, lost, been damaged or inappropriately repaired or added.
Screening and Scoping	This activity is based around a desk study involving an exploration of available data and information. It requires the use of impact identification techniques that are based upon generalised relationships and thresholds that either establish the future need or exclude issues from further consideration. Consultations with statutory stakeholders for this level would generally be appropriate only where high levels of uncertainty exist in the outcome.
Sensitivity	The extent to which an <i>historic landscape</i> can absorb change of a particular type and scale without unacceptable adverse effects on its character.
Setting	The surroundings of any object regarded as its framework.
Simple Assessment	This activity is based on the assembly of data and information beyond that which is readily available. Such additional information is typically gained through exploratory consultations with statutory bodies, simple analysis, reconnaissance surveys or investigation of new data sources, such as aerial photographs and external databases etc. The predictive techniques involve forecasts of the significance of an effect to a level sufficient to provide robust and defensible information to decision makers.
Time-depth	The survival of features from periods of the past. Greatest time-depth is attributed to <i>historic landscapes</i> where many periods are represented, less time-depth where fewer are discernable.

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11 Acknowledgements and contacts

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A1 Appendix 1

Historic landscape character	Source of impacts	Nature of impacts	Direct impacts	Indirect impact	Magnitude of impact with mitigation	Significance of effect
Unit description						
<p>HL Type field enclosures Class A.</p> <p>Only two other areas in county. Stone gate posts and field boundaries key historic characteristics.</p> <p>Sensitive to severance of landuse and loss of boundaries and features.</p> <p>Value: High</p>	Horizontal and vertical alignment. False cutting	<p>Severance and loss of parts of 10 key boundaries and 7 stone gateposts removed.</p> <p>Visual and noise intrusion</p>	Permanent negative impact on coherence, legibility and amenity	Permanent negative impact on coherence, legibility and amenity Likely changes in ownership and/or landuse could increase vulnerability to loss of key boundaries, and changes to landcover and management regime, further reducing historic legibility and coherence	<p>New boundaries along the road to match the style of the key boundaries, relocating gate posts in appropriate sites</p> <p>Moderate impact</p>	Moderate adverse
	Construction compound adjacent to road line	<p>Landtake, change of use.</p> <p>Visual intrusion</p>	Temporary change of character for 18 months would not result in permanent loss of any boundaries or other key features that give the area its character	Nil	<p>Reinstatement of existing landuse.</p> <p>Minor impact</p>	