


Broxbourne Borough Council Broxbourne Landscape Character Assessment





Broxbourne Borough Council
**Broxbourne Landscape Character
Assessment**

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Date	22 October 2008
Revision	FINAL

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PREFACE

This Technical Study was commissioned by Broxbourne Borough Council. It provides a baseline inventory of variations in landscape character across the Borough, and outlines guidance for conserving, enhancing, and/ or restoring locally distinctive landscape characteristics. The need to protect and enhance landscape character is recognised by Government planning policy on the delivery of sustainable development through the planning system. To ensure that full account is given to landscape character in planning decisions, the Study is commended to the Council for use as an evidence base for informing the preparation of the Local Development Framework and in development control.

We are grateful for the advice and guidance provided by the Steering Group, namely:

- Shazad Ghani - Senior Policy and Research Officer, Broxbourne Borough Council,
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Chris Blandford Associates

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EXECUTIVE SUMMARY

Background

In April 2008, Broxbourne Borough Council commissioned Chris Blandford Associates (CBA) to undertake a Landscape Character Assessment of the Borough.

The aim of the Study is to provide an up to date and integrated assessment of the landscape character of the Borough in accordance with current guidance and best practice. This will serve as a baseline inventory to enable a better understanding of the District's landscapes and will be used as a technical evidence base to inform policies and proposals within the forthcoming Local Development Framework (LDF) for Broxbourne.

Judgements about the acceptability, or otherwise of specific development and/or land management proposals in landscape terms should take account of the description and guidance for the relevant Landscape Character Type(s).

Methodology

The overall approach to the Study is based on Landscape Character Assessment – Guidance for England and Scotland (Countryside Agency/Scottish Natural Heritage, 2002), the latest published guidance, and takes into account current best practice. Landscape Character Assessment addresses both the relatively objective process of landscape characterisation, which involves identifying, mapping, classifying and describing 'landscape character', and the more subjective process of evaluating landscape character to inform planning and land management decisions.

In summary, the main stages involved in the study process were:

- Information Scoping
- Desk-Study Research
- Field Survey
- Characterisation
- Evaluation
- Preparation of the Study Report

Structure of the Report

Section 1.0 sets the context for the Study. It explains the background to the Study, its aims and objectives, and highlights the importance of landscape character. It also describes the planning policy framework for the Study, and outlines the approach and process behind the assessment methodology.

Section 2.0 provides an overview of the Borough. It describes the physical and historical influences that have shaped the landscape, and identifies the key forces for change affecting landscape character today.

Section 3.0 provides an overview of landscape character across the Borough as a whole within the national and county context, and provides detailed 'profiles' of the five Landscape Character Types and their constituent nine Landscape Character Areas identified by the assessment. Landscape Character Types are homogenous tracts of landscape which share broadly similar combinations of geology, topography, drainage patterns, vegetation, historical land use and settlement pattern. They are generic in nature, in that they may occur in different parts of the country. Landscape Character Areas are single, unique areas and are the discrete geographical areas of a particular Landscape Character Type. The profiles describe the character of each landscape character unit and set out guidelines for managing landscape change for informing land management initiatives and land use planning decisions.

Within the context of the national approach to monitoring landscape change, Section 4.0 identifies indicators for monitoring positive or negative changes to the character of the Borough's landscapes.

Section 5.0 sets out the main conclusions of the Study and provides recommendations to the Council for its consideration and action as appropriate.

1.0 INTRODUCTION

1.1 Background

1.1.1 The Borough of Broxbourne (see Figure 1.1) is located in the south east of Hertfordshire; it is bounded by the M25 to the south and is approximately 15 miles (25km) to the north of central London. The Borough covers about 20 square miles (52km²) and has a population in the region of 89,800 (2006-based sub-national population projections) who live mostly in or around the main towns of Waltham Cross, Cheshunt, Broxbourne and Hoddesdon. Although about two thirds of the Borough is undeveloped and remains essentially rural in character, a considerable proportion has been urbanised as a result of industrial, commercial, and residential development, particularly along the floor of the Lee Valley.

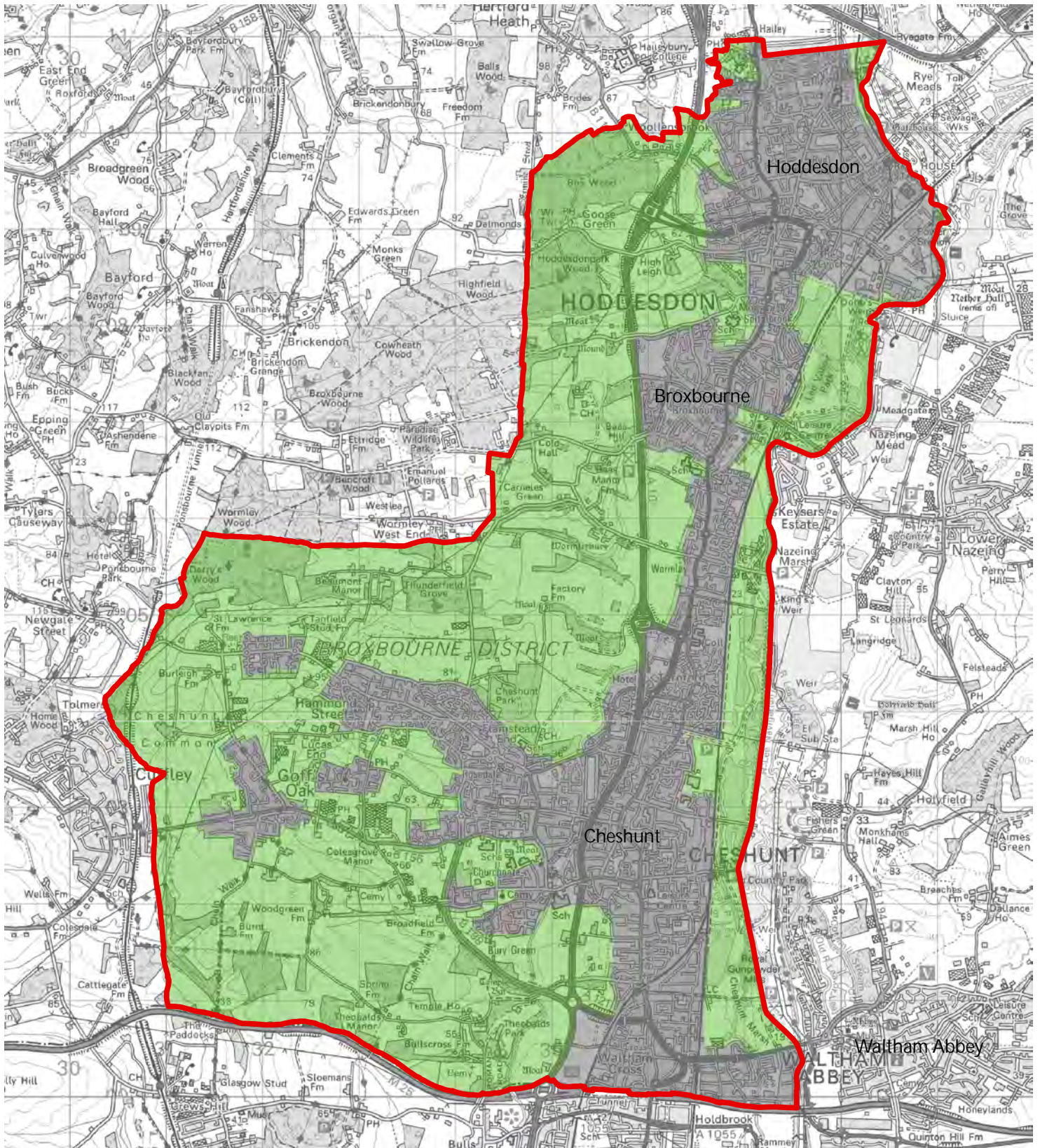
1.1.2 In April 2008, Broxbourne Borough Council commissioned Chris Blandford Associates (CBA) to undertake a Landscape Character Assessment of the Borough to enable better understanding of its rural landscapes and provide an evidence base for informing policies and proposals within the Core Strategy and forthcoming Local Development Framework (LDF) for the Borough.

1.2 Study Aims and Objectives

1.2.1 The overall objectives of the Landscape Character Assessment set out in the Brief were to:


- Provide a classification of the Borough into its distinctive Landscape Types and their component Landscape Character Sub-Areas, including broad descriptions of the key characteristics of each.
- Identify in broad terms, those changes or development pressures which are likely to threaten the Borough's landscape character based and the key capacity issues raised, having regard to the sensitivities of the landscapes concerned with particular reference to the urban fringes.
- Provide a brief vision statement for each landscape type, and provide broad landscape objectives and guidelines to be used to inform the LDF.
- Identify key landscape character issues to be used to inform the LDF preparation process.
- Provide information in a format compatible with established geographic information systems (GIS) in use in the Borough.
- Identify potential indicators that could form part of the LDF monitoring framework.

1.2.2 The study has been undertaken in two main stages. The first involved desk top assessment of existing data and documents, followed by detailed assessment in the field. This characterisation stage involved an objective and authoritative assessment of landscape character comprising the

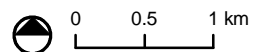


KEY

 Borough of Broxbourne Boundary

 Study Area

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AUGUST 2008

**BOROUGH OF BROXBOURNE
LANDSCAPE CHARACTER ASSESSMENT**

Figure 1.1
The Study Area

identification, mapping and description of discrete landscape character types, and where appropriate, character sub-areas. Secondly, the making judgements stage involved further analysis and evaluation to consider the implications of change on the landscape, with particular regard to the influences arising from development pressures. Judgements were made about the desired direction of change, and recommendations are presented in the form of guidelines for managing change, to be used to inform the preparation of the LDF. It is also a tool to be used to assist in the conservation, management and enhancement of the landscape through the development of landscape management policies, objectives, strategies and practices.

1.3 The Importance of Landscape Character

1.3.1 The UK Government signed the European Landscape Convention¹ on 24 February 2006. The Convention aims to encourage public authorities within member states to adopt policies and measures for the protection, management and planning of all landscapes, whether outstanding or ordinary, that determine the quality of people's living environment. The Convention specially encourages local authorities to introduce exemplary and long lasting policies or measures to protect, manage and plan landscapes.

1.3.2 The European Landscape Convention defines landscape as:

‘an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors.’

1.3.3 The term landscape is typically synonymous with the countryside; however, landscape is everywhere and includes rural landscapes, urban landscapes/townscapes, urban fringe landscapes, and coastal landscapes/seascapes. In Broxbourne's case, the study area for this Landscape Character Assessment was defined as the area of the Borough currently designated as Green Belt in the adopted Local Plan and shown as such on the Proposals Map.

1.3.4 The European Landscape Convention defines ‘landscape character’ as:

‘a distinct and recognisable pattern of elements that occur consistently in a particular type of landscape.’

¹ The European Landscape Convention opened for signature in Florence on 20 October 2000. Jim Knight, Minister for Rural Affairs, Landscape and Biodiversity announced the UK signing of the European Landscape Convention on 24 February 2006. The European Landscape Convention, European Treaty – Series No. 176 <http://conventions.coe.int/treaty/en/Treaties/word/176.doc>

- 1.3.5 In England and Scotland, Landscape Character Assessment is a tool that allows landscape character to be understood, explained and described in a transparent and robust way. It does this by mapping and describing the variations in physical, natural and cultural attributes and experiential characteristics that make one area distinctive from another at a range of spatial scales. Landscape Character Assessment also considers how landscapes have changed over time, and acknowledges the influences that human activities and the impacts of economic development have in shaping and changing landscapes.
- 1.3.6 The overall aim of landscape planning, design and management should be to achieve sustainable landscapes that are biodiverse and as visually and culturally rich as possible to meet all of society's social, economic and environmental needs. A better understanding of landscapes provided by Landscape Character Assessments – their diversity, character and distinctiveness, evolution, sensitivity to change and their management needs – is essential to help to work towards this goal, and essential to effective spatial planning.

1.4 Planning Policy Framework

Rural White Paper, Our Countryside - The Future: A Fair Deal for Rural England

- 1.4.1 In its Rural White Paper, Our Countryside - The Future: A Fair Deal for Rural England, the Government outlines its belief that 'planning decisions should consider the overall value of the land in deciding what countryside should have the greater protection. Agricultural quality should be treated only as one factor. The quality of landscapes, wildlife and habitats, recreational amenity and our historic and cultural heritage are equally important and must be weighed in planning decisions'. Indeed, it wants 'local authorities to seek ways to enrich the countryside as a whole, not just in the protected areas, and maintain its distinctive local features'.

Planning Policy Guidance

- 1.4.2 National Planning Policy relating to landscape character in rural areas is primarily addressed in Planning Policy Statement (PPS) 7, but also referred to in other contexts in PPS1, PPS12, PPS12 and PPG15.

Planning Policy Statement 1: Delivering Sustainable Development

- 1.4.3 PPS1 sets out the Government's overarching planning policies on the delivery of sustainable development through the planning system. It states that one of the Government's objectives for the planning system is that planning should facilitate and promote sustainable urban and rural

development by protecting and enhancing the natural and historic environment and the quality and character of the countryside (paragraph 5). In its key principles, PPS1 states that ‘a spatial planning approach should be at the heart of planning for sustainable development’ (paragraph 13.iii) and ‘design which fails to take the opportunities for improving the character and quality of an area should not be accepted’ (paragraph 13.iv). It goes on to say that, when preparing development plans, ‘planning authorities should seek to enhance as well as protect biodiversity, natural habitats, the historic environment and landscape and townscape character’ (paragraph 27). PPS1 also requires new design to be integrated into the existing urban form and natural and built environments (paragraph 35).

Planning Policy Statement 7: Creating Strong, Safe and Prosperous Communities through Sustainable Development in Rural Areas

- 1.4.4 Landscape Character Assessment, along with Village or Town Design Statements and Village or Parish Plans, is recommended by PPS7 as a tool to assist local authorities in the preparation of policies and guidance that encourages good quality design throughout rural areas (paragraph 13). Landscape Character Assessment is also recommended in PPS7 as a tool for creating carefully drafted criteria-based policies in Local Development Documents to protect valued landscapes outside nationally designated areas without the need for rigid local designations, which may restrict sustainable development and the economic vitality of rural areas. PPS7 advises that local landscape designations should only be maintained or, exceptionally, extended, where it can be clearly shown that criteria-based policies cannot provide the necessary protection (paragraphs 24 and 25).

Planning Policy Statement 12: Local Spatial Planning

- 1.4.5 PPS 12 provides guidance on the structure and delivery of the new Spatial Planning system and explains the importance of Spatial Planning in creating strong, safe and prosperous communities. It describes Spatial Planning as a process of place shaping and delivery. It emphasises the need for evidence based policies and plans that have regard to the sense of local distinctiveness and community derived objectives, set within the framework of national policy and regional strategies. Spatial planning provides a means of safeguarding an area’s environmental assets, both for their intrinsic value and for the contribution they make to social and economic well being. The PPS makes specific mention of the roles that Spatial Planning has to play in the proper provision of green infrastructure and in the conservation and enhancement of the landscape.
- 1.4.6 PPS12 advises that Local Development Frameworks must be based on sound evidence. The vision expressed in Core Strategies should be in conformity with the Regional Spatial Strategy

(RSS) and informed by an analysis of the characteristics of the area and its constituent parts, and the key issues and challenges facing them. The Core Strategy should be supported by evidence of what physical, social and green infrastructure is needed to enable development in the area. It is evident in this PPS that a thorough understanding of local landscape and local green infrastructure requirements is key to the process of effective Spatial Planning.

Planning Policy Guidance 15: Planning and the Historic Environment (PPG 15)

- 1.4.7 PPG 15 provides guidance about the conservation of all aspects of the historic environment including the wider historic landscape. It recognises that Local Planning Authorities (LPAs) have a significant role in defining planning policies for the countryside and advises that in doing so LPAs should take account of the historical dimension of the landscape as a whole rather than concentrate on selected areas. LDF's should protect the landscapes' most important components and encourage development that is consistent with maintaining its overall historic character.
- 1.4.8 The historic dimension of the Borough's landscape has been assessed by Hertfordshire County Council in its Historic Landscape Classification (HLC), Historic Landscape Characterisation County Report for Hertfordshire published in 2006. The report and its associated data have been used to aid understanding and assessment of the landscape within the Borough and the role that historic uses and patterns of change that have occurred over time have had in creating the landscapes of today.

Regional Planning Policy

The Regional Spatial Strategy for the East of England – The East of England Plan

- 1.4.9 The Regional Spatial Strategy (RSS) for the East of England, the East of England Plan, was published in May 2008 and sets out planning policy and guidance specific to the East of England region, which includes the Borough of Broxbourne, until 2021. The RSS is based on the principles of sustainable development, and specifically identifies the need to protect and enhance the distinctiveness of the Region's natural environment (including landscape) as a key consideration in managing the spatial development of the East of England. RSS Policy ENV2 – Landscape Conservation, states:

“Planning authorities and other agencies should recognise and aim to protect and enhance the diversity and local distinctiveness of the countryside character areas identified in Fig 6* by:

- Developing area-wide strategies, based on landscape character assessments, setting long-term goals for landscape change, and giving priority to those areas subject to most growth and change;
- Developing criteria-based policies, informed by the area-wide strategies and landscape character assessments, to ensure all development respects and enhances local landscape character; and
- Securing mitigation measures where, in exceptional circumstances, damage to local landscape character is unavoidable.”

*The Borough of Broxbourne falls wholly within the Northern Thames Basin Character Area (LCA 211) as defined by the Character Map of England and illustrated in Figure 6 of policy ENV 2 of the RSS.

- 1.4.10 The RSS recognises that the landscapes, townscapes and seascapes of the East of England are defining features of the region and provide an important setting for settlements and contribute to local distinctiveness and sense of place. The landscape character assessment approach is supported by the RSS as a basis for assessing and managing the impacts of development on the landscape and as a tool for promoting high quality development which enhances local landscape character and distinctiveness.

Local Planning Policy

- 1.4.11 The Borough of Broxbourne Local Plan Second Review 2001-2011 (the Local Plan) is the framework for guiding, controlling and bringing forward development in the Borough. Under the new system set out in the Planning and Compulsory Purchase Act 2000, this Local Plan will eventually be replaced by a series of Local Development Documents which will collectively comprise the Local Development Framework (LDF). When the process of change is complete, the full LDF and its DPDs for the Borough will conform to the Regional Spatial Strategy for the East of England (RSS). In the interim, planning policy is provided in the two approved plans, the RSS published in May 2008 and the Local Plan (2001-2011) adopted in December 2005.
- 1.4.12 One of the Plan’s primary objectives is to set out the framework within which the needs for new housing will be met for the people of Broxbourne. The minimum requirement for residential development in Broxbourne for the RSS period (2001 – 2021) is set at 5,600 dwellings, at least 60% of which is to be met through the use of previously developed land. Meeting the need for residential development is likely to give rise to pressure to develop some green-field sites, and give rise to significant implications for the conservation of the character of the Borough’s landscapes.

1.4.13 The Council has published a Local Development Scheme (LDS) which sets out the timetable for replacing the Local Plan and gives more details on the new preparation process. The LDS sets out the timetable for preparation and adoption of the various Local Development Documents in the next three years.

1.4.14 The adopted Local Plan contains a number of policies concerned with the protection, conservation and enhancement of aspects of the landscape. Policies designated as being saved from the Local Plan will be outlined in the Annual Monitoring Return, some if not all of these policies will be superseded by the adoption of the LDF. The Plan expresses a strong commitment to the conservation of the Borough's remaining countryside, particularly within the context of its policies in respect of Green Belt and Countryside. The conservation and enhancement of landscape character is specifically addressed in Policy GBC 16:

GBC 16, Landscape Character and Enhancement

(i) The Council expects all development proposals affecting land within the Metropolitan Green Belt to incorporate appropriate landscape enhancement measures appropriate to the local context

(ii) Development likely to seriously detract from the character or appearance of the countryside will be resisted.

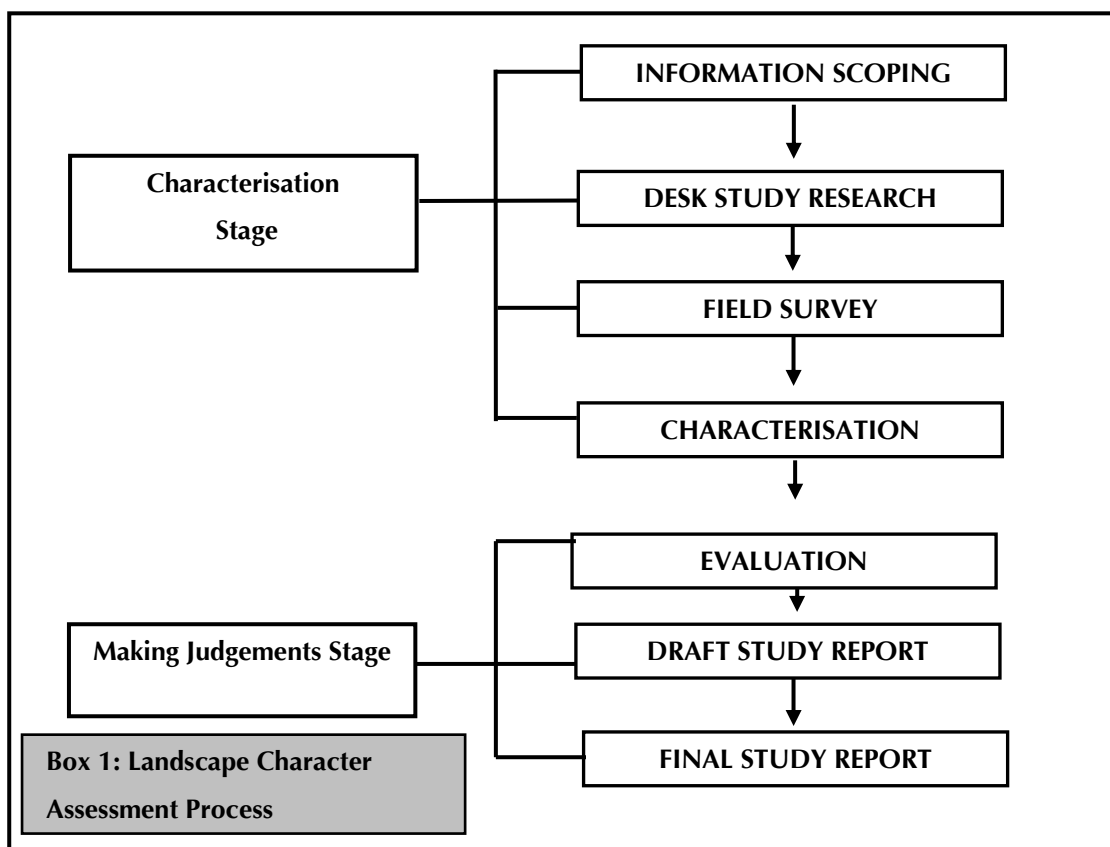
1.4.15 The following subject or place specific Local Plan policies are also relevant to the protection, conservation, restoration and/or enhancement of aspects of landscape character, quality and distinctiveness.

- Policy SUS 1 - Sustainable Development Principles
- Policy CLT 4 - Lee Valley Regional Park
- Policy HD 2 - Requirements for evaluation of Heritage Asset
- Policy HD 3 - Preservation of Heritage Asset.
- Policy HD 9 - Parks and Gardens of Historic Interest
- Policy HD 12 - Development adjoining or visually related to Conservation Areas
- Policy HD 14 - Design Statement on Local Character
- Policy HD 17 - Retention/Enhancement of Landscape Features
- Policy HD 18 - Trees, Hedgerows and Woodlands
- Policy HD 19 - Waterside Green Chains

1.5 Approach and Methodology

1.5.1 The approach followed in this Landscape Character Assessment is based on the latest guidance published by the Countryside Agency, and takes into account current best practice. Landscape Character Assessment addresses both the relatively objective process of landscape characterisation, which involves identifying, mapping, classifying and describing landscape character, and the more subjective process of evaluating, understanding and making judgements to inform planning and land management decisions.

1.5.2 The process followed in this assessment is illustrated in Box 1, and described below:



Information Scoping

1.5.3 This preliminary stage involved the following main tasks:

- Identification and review existing landscape character assessments covering the Borough of Broxbourne and adjoining areas;
- Collection and collation of landscape character information for incorporation into the Broxbourne landscape character assessment;

- Identification of shortfalls in the extent of coverage of landscape character assessment, and identification of further work necessary to provide an appropriate level of information for incorporation into the Borough's Landscape Character Assessment.

Desk Study Research

- 1.5.4 This stage involved desk-based research to identify the physical and historical factors that have influenced the shape and use of the landscape. This work drew on a variety of documents and maps that describe the physical geography, character and cultural history of the Borough. The desk research also enabled initial information to be gained about the forces for change affecting the character of the Borough's landscape.
- 1.5.5 In summary, the desk work involved a review of existing national, county and local landscape character assessment classifications, including the Countryside Agency's Character of England Map, the Hertfordshire Landscape Strategy Volume 1 and the accompanying Volume 2, Landscape Character Assessment, Evaluation and Guidelines for Southern Hertfordshire (HCC 2000).
- 1.5.6 The review of existing landscape character information included neighbouring local authority areas to ensure that an appropriate level of continuity and consistency was achieved between the Broxbourne assessment and those of neighbouring local authorities' areas. The extended review included:
- Hertfordshire Historic Landscape Characterisation (HCC, 2000);
 - Historic Environment Sites and Monuments Records (HCC);
 - East Hertfordshire Council's Landscape Character Assessment;
 - East Hertfordshire Council's Landscape Character Assessment Supplementary Planning Document (SPD);
 - Harlow Area Landscape and Environment Study (CBA, 2004);
 - Essex Landscape Character Assessment (CBA, 2003).
- 1.5.7 After initial evaluation of existing contextual information further desk work was undertaken involving:
- Production and analysis of map overlays of physical and cultural components of the landscape;
 - Assessment of aerial photographs of the Borough;
 - Identification of draft Landscape Character Types and, where appropriate, draft Landscape Character Areas;

- Review of the policies and land allocations in the adopted Local Plan and its accompanying Proposals Map.

Field Survey

1.5.8 Field surveys were undertaken during May and June 2008. The aim of the surveys was to undertake a visual analysis of the landscape to develop an understanding of how different features and elements of the landscape combine to create distinctive landscape patterns and how these influence landscape character. The surveys were carried out by a team of experienced assessors and involved a comprehensive drive-through assessment of all parts of the Borough and detailed evaluation at key locations within each of the draft Landscape Character Areas. The field assessments followed a structured format based on established best practice. The assessment criteria included:

- Landform
- Rivers/drainage
- Land cover
- Field pattern and field boundaries
- Communication routes
- Settlement form/pattern
- Building styles
- Scale
- Texture
- Enclosure
- Stimuli
- Sense of tranquillity
- Movement
- View types and composition
- Landmarks

1.5.9 The survey information (including photographs) was used to (i) inform the descriptions of landscape character and (ii) to test and refine the boundaries of the draft Landscape Character Types and Areas.

Landscape Characterisation

1.5.10 The characterisation stage involved the combination of the desk study research and field survey analysis to identify and map generic Landscape Character Types and geographically unique Landscape Character Areas. These were mapped at a scale of 1:25,000.

- 1.5.11 Historic Landscape Characterisation information for Hertfordshire County was used to compliment field assessment and determine how the historic routes, settlements, building styles, vernacular materials, archaeological features and the origins/forms and patterns of fields contribute to the character of each Landscape Character Type. Use of historic landscape classification helps develop understanding of the way in which landscapes have changed over time and the types of influences that have brought about change through history to the present day. It also provides a basis upon which to determine features and characteristics of the landscape that contribute to local distinctiveness and where specific measures are required in respect of landscape protection, conservation, restoration or enhancement to conserve the historic elements of the landscape that are significant in determining landscape character.
- 1.5.12 The boundaries of each identifiable Landscape Character Type were mapped and their key determining characteristics were described under the following headings:
- Location
 - Key Characteristics
 - Landscape Character
 - Physical Features (geology, soils, landform, hydrology and land cover/habitats)
 - Landscape Character Sub-Areas (including detailed consideration of their historical and cultural influences).
- 1.5.13 Existing landscape characterisation studies in neighbouring Counties, Districts and Boroughs were taken into account and appropriate information from these was incorporated into this assessment to achieve consistency across administrative boundaries and between assessments.
- 1.5.14 Urban areas were excluded from the study area and are referred to only to give context to the study and the relationships between urban settlements and the wider rural landscape.

Landscape Evaluation - Making Judgements

- 1.5.15 This stage involved making the following judgements about each Landscape Character Type/Area:
- Forces for Change
 - Past Landscape Changes
 - Current Landscape Condition
 - Future Landscape Changes and Opportunities
 - Sensitivities and Capacity for Change

- 1.5.16 The Forces for Change assessment comprises a bullet point list of recent observable past changes in the Landscape Character Type; a concise description of how the intactness of the different components create a perception of the overall current condition of the landscape; and a separate bullet point list of the positive and negative future changes and opportunities that are considered likely to affect the landscape over the short term (5 years) and long term (20 years+).
- 1.5.17 The methodology for evaluating the inherent sensitivities of each defined Landscape Character Type or Area to change was based on the criteria for judging sensitivity set out in an accompanying paper to the Countryside Agency's Landscape Character Assessment Guidance for England and Scotland², taking into account current best practice. It should be noted that the sensitivity evaluation is based on the relatively broad-brush analysis undertaken at 1:25,000 scale for this assessment. The degree of sensitivity is not absolute and it will vary according to the nature of change under consideration; it is therefore indicative.
- 1.5.18 Within this report, sensitivity is assessed in terms of the landscape resource (both its character as a whole and the individual elements contributing to its character) and the visual sensitivity of the landscape (including a combination of factors, such as views and visibility). The assessment considers the key positive attributes that are judged to be inherently sensitive. Judgements are then made about the capacity of the overall Landscape Character Type to accommodate change.

Guidelines for Managing Landscape Change

- 1.5.19 The Guidelines for Managing Landscape Change are derived using the information from the evaluation. Judgements are made about the most appropriate direction of change within each Landscape Character Type and how the change might be achieved through landscape management, particularly management arising from the need to accommodate development. The Guidelines for Managing Landscape Change are presented in the form of:
- A Vision,
 - A set of Management Objectives/Guidelines.
- 1.5.20 Each of the above is set out for each Landscape Character Type and/or Area.

² Landscape Character Assessment – Guidance for England and Scotland, Topic Paper 8 – Techniques and Criteria for Judging Capacity and Sensitivity (Swanwick, 2004)

1.5.21 The condition, sensitivity and change analysis, together with the proposed guidelines for each Landscape Character Type can be used to:

- Establish and apply criteria-based landscape protection and enhancement policies through the Local Plan and Local Development Framework;
- Inform decision making in respect of development control and the management of the impacts of new development on the character of the landscape;
- Inform Sustainability Appraisal/Strategic Environmental Assessment of Local Development Framework site allocations;
- Highlight landscape issues that may need to be considered in greater detail in relation to development control decisions;
- Identify spatial development options within the Local Development Framework;
- Target enhancement and mitigation measures intended to address impacts on landscape character arising from development;
- Inform and underpin design guidance to promote higher quality design;
- Influence and guide land management;
- Inform the design and delivery of Green Infrastructure provision;
- Provide baseline data and indicators for use in the monitoring of changes in the character of the landscape and the effectiveness of policy controls;
- Provide guidance to those involved in the targeting and delivery of environmental land management schemes – e.g. Environmental Stewardship advisers, landowners and land managers.

Key Stakeholder Consultation

1.5.22 This assessment will provide a valuable tool for consultation with Stakeholders as part of the Borough's ongoing work to demonstrate the value and importance of landscape conservation to its town and country planning remit, and other work undertaken to conserve landscape character and quality through its other functions.

1.5.23 Helpful guidance about setting up effective stakeholder consultation is provided in the Landscape Character Assessment – Guidance for England and Scotland Topic Paper 3 - Landscape Character Assessment - how stakeholders can help.

1.5.24 The scope of people and organisations with a vested professional or public interest in landscape character is broad and consequently the methods used in stakeholder consultation and the extent of consultation needs to be planned with care. At the local (Borough) scale the range of stakeholder interests would include the following key groups and organisations. This

list is by no means exhaustive, and final consultation would need to be planned with the benefit of thorough local information.

1.5.25 Key stakeholders:

- Regional Offices of Government Departments, Agencies and NGOs e.g. Natural England, Forestry Commission, Environment Agency, Highways Agency;
- Council for the Preservation of Rural England (CPRE), National Trust, Royal Society for the Protection of Birds (RSPB);
- Hertfordshire County Council;
- Neighbouring District and Borough Councils;
- Borough Council Departments and Committees;
- Parish Councils;
- Land Management Interests – Representative Farming interests e.g. CLA, NFU,;
- Major Estate Landowners;
- Management Trusts;
- Local Landscape/Amenity and Wildlife Organisations;
- Local History Societies;
- Representative Commercial Interests.

1.5.26 There are many methods of consulting with communities and the methods used should be designed to suit the differing types of participating group. Guidance on some of the methods available is provided in the Topic Paper referred to earlier in this section.

Structure of the Report

1.5.27 The remainder of the report is structured as follows:

- Section 2.0 provides an overview of the landscape within the Borough. It describes the physical and historical influences that have shaped the character of the Borough's present day landscapes, and outlines the current and anticipated key forces for change/issues affecting landscape character.
- Following an overview of landscape character across the Borough as a whole in its national, regional and county context, Section 3.0 sets out the detailed 'profiles' for each of the defined Landscape Character Types, incorporating the analytical, factual and value-free character descriptions, the evaluation information and guidelines.
- Section 4.0 identifies potential indicators that could form part of the LDF monitoring framework.

- Section 5.0 sets out the main findings of the assessment, and makes recommendations for further work as appropriate.
- Appendices provide a reference list of all sources of data used to compile the Study, including policy documents and guidance and a glossary.

2.0 THE SHAPING OF THE LANDSCAPE

2.1 General

2.1.1 This section describes the physical and historical features that have influenced the shape of the landscape of Broxbourne Borough, and provides an overview of recent forces for change affecting the character of the landscape.

2.2 Physical Influences

2.2.1 The landscape of Broxbourne Borough, like all others, retains traces of the many different influences that have acted upon it. The character of the landscape has evolved in response to the basic underlying geological characteristics of the land upon which natural processes and human activities have operated, which in turn influences the patterns of land use as well as ecological and cultural character.

2.2.2 The following is a summary of the physical influences that have shaped the landscape of Broxbourne Borough:

Geology (see Figure 2.1)

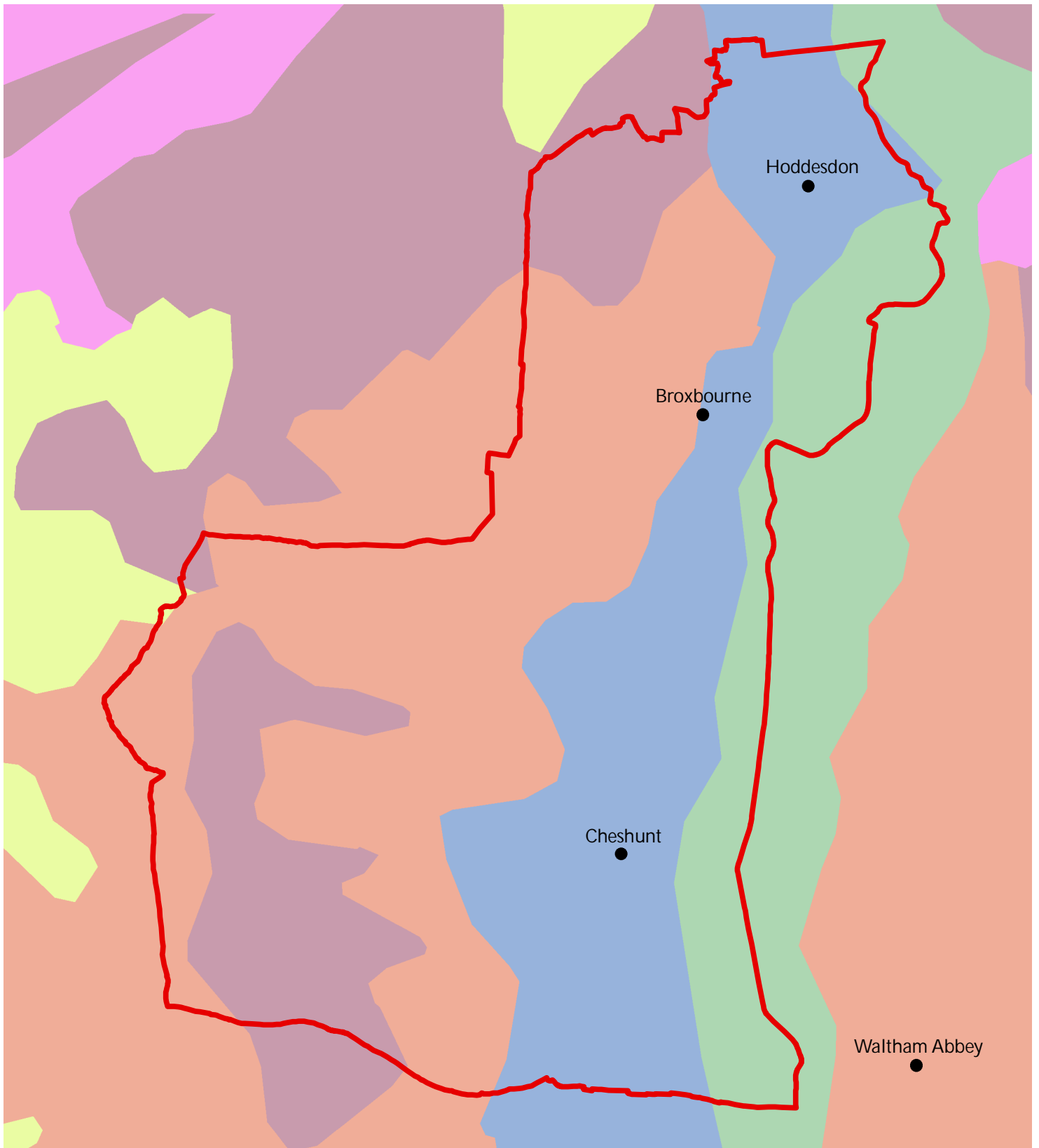
2.2.3 In terms of Solid Geology, Broxbourne is underlain by a combination of London Clay (covering most of the Borough) and Reading Beds (beneath the northern part of the Lea Valley)³. The Reading Beds are a shallow sea deposit at base, with upper parts deposited by rivers that flowed eastwards across Hertfordshire. They are a Palaeocene deposit, dating from approximately 65-56.5 million years ago and consist of multicoloured clays with irregular patches of yellow sand and occasional bands of small (1-5cm) black pebbles).

2.2.4 Once the Reading Beds had been deposited, there was another cycle of uplift, tilting, erosion and subsidence of land beneath the sea. As a result of this, London Clay was deposited, which overlies the Reading Beds. London Clay has a grey or brown colour and often contains fossils of land plants (preserved in iron pyrites) or marine shells.

2.2.5 The following Drift deposits cover Broxbourne Borough (See Figure 2.1):

- River Terrace Gravels;

³ Hertfordshire Geological Society: Geology of Hertfordshire – Geology on your doorstep, Dr. John Catt (<http://www.hertsgeolsoc.org.uk>).



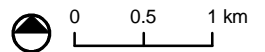
KEY

Superficial Deposits

- Recent River Alluvium
- River Brickearth (Devensian)
- Chalky Boulder Clay (Anglian)
- Pebble Gravels (Early Pleistocene)

- Glacial and River Terrace Gravels (Anglian and Younger)
- London Clay

- Study Area Boundary
- Borough of Broxbourne Boundary



- Chalky Boulder Clay;
- River Brickearth;
- Recent River Alluvium;
- Pebble Gravels (early Pleistocene).

2.2.6 The gravel deposits result from deposition associated with the River Thames, which used to flow north-eastwards through the Vale of St. Albans, rather than along its present course through London. The Chalky Boulder Clay and associated gravels (containing fragments of chalk, flint and many other rocks) were deposited by a glacier from Northern England, Scotland and Scandinavia during the Anglian glaciation (480,000 Before Present (BP)).

Landform (see Figure 2.2)

2.2.7 The landscape of Broxbourne Borough generally comprises a low, gently undulating landscape, which is dissected by the major corridor of the River Lea to the east and a series of west-east running smaller stream corridors to the west. These smaller, narrower tributary valleys divide the hills and ridges to the west.

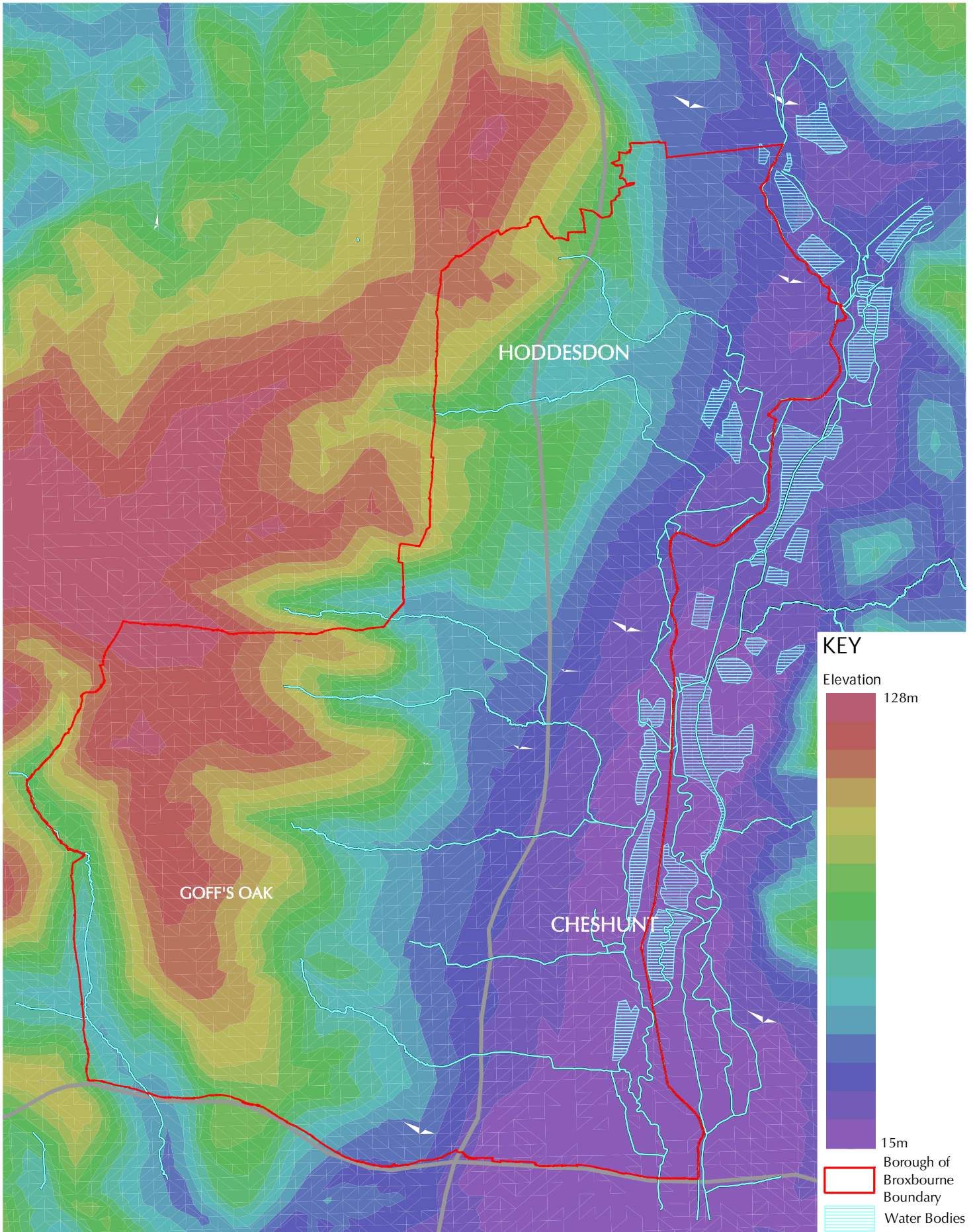
2.2.8 The floodplain of the River Lea is generally flat and wide, encompassing the river floor and floodplain and also the course of the River Lee navigation.

2.2.9 The highest land in the Borough lies to the northwest, along a ridge of land that runs from Hoddesdon in the northeast towards Newgate Street in the southwest. Much of this higher land extends outside the Borough boundary and is covered by an extensive swathe of predominantly deciduous woodland within Hoddesdon Park, Broxbourne and Wormley Woods.

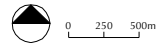
Drainage (see Figure 2.2)

2.2.10 The largest river corridor within Broxbourne is that of the River Lea, which flows southwards along the eastern edge of the Borough until it meets the River Thames (to the south). Much of the river corridor extends outside the Borough to the east (within Harlow District).

2.2.11 A number of tributaries join the River Lea (including Spital Brook, Wormleybury Brook and Turnford Brook). These originate on higher ground to the west of the Borough and flow eastwards towards the main corridor of the River Lea. These rivers tend to be narrow throughout much of their course. Towards the western edge of the Borough, the broader corridor of Cuffley Brook flows north-south across the landscape. The corridor of the New River also runs north-south across the landscape through Hoddesdon Urban Area, to the west of Wormley and through Cheshunt Urban Areas.



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projects\11108501 Broxbourne LCA\CAD\Dwgs01\11108501_2-2_Landform-Drainage.dwg

Figure 2.2
 Landform and Drainage

- 2.2.12 The River Lea originally defined the river valley landform to the east of Broxbourne Borough. However, the engineered Lee Navigation and the extensive post-mineral extraction waterbodies and wetlands now dominate the character of these areas. The Old River Lea diverges from the uniform and engineered Lee Navigation canal at King's Weir (outside the Borough) to the east of Wormley urban area. The New River was built between 1608 and 1613 to take drinking water from local springs to London (to the south).

2.3 Historical Influences

- 2.3.1 This section provides a brief overview of the historical influences on landscape character within Broxbourne Borough.
- 2.3.2 The landscape of Broxbourne has been adapted by people since humans first inhabited the River Lea valley in the Palaeolithic (500,000 - 4,500 BC). Throughout the subsequent millennia, the structure of the modern landscape – its settlements, fields, communications networks and parks – has evolved.

Palaeolithic to Mesolithic (c.500,000 to c. 4,500 BC)

- 2.3.3 The settlement pattern of Broxbourne Borough has its earliest origins in the prehistoric period. The Lea Valley contains a range of evidence for Mesolithic occupation including the important early site of Dobb's Weir. The River Lea has also been an important routeway since early prehistory.

Neolithic, Bronze Age and Iron Age (c. 4,500 BC to c.43 AD)

- 2.3.4 The agricultural landscape has been a feature of the Broxbourne landscape since the adoption and gradual development of agriculture in the Neolithic (c. 4,000 to 2,600 BC). Prehistoric agricultural activity took place within a variety of field systems and open landscapes, which were used, reused and abandoned across the generations.

Romano-British (c.43 AD to 4th century AD)

- 2.3.5 Ermine Street, the nationally important route that ran from London to Lincoln and York runs through the Borough and was once a feature of the Roman landscape. The presence of Ermine Street influenced the development of the landscape, enabling industry and agriculture through connecting the area with important markets and providing income from travellers. A well preserved section of the road is located at Tudor/White Stubbs Farm. Ermine Street later

became one of the four main highways of Saxon England, and part of its line is still used in the London Road.

- 2.3.6 There is also evidence of the remains of Roman buildings within the landscape which were excavated at Cheshunt Park Farm in the 1950s (in relatively close proximity to Ermine Street).
- 2.3.7 During the Saxon period, a major abbey and eventually town were established at Waltham. Waltham Abbey was one of the most powerful during the 11th century, owning much of the land and the estates in the area and providing a major influence on the development of the medieval landscape, including the small-scale clearance of heath and woodland for agricultural land. With the dissolution of the Abbey in 1540 the estates and lands were divided up and sold, and the landscapes of the Abbey's landholdings changed.

Medieval (c. 4th century to 16th century AD)

- 2.3.8 During the medieval period, the landscape was divided into estates and subdivided into manors owned by lords and farmed by tenants in networks of fields. This feudal form of landscape management would have been prevalent across the Broxbourne landscape.
- 2.3.9 Theobald's Park is an example of such an estate. It was bought in 1564, was bought by William Cecil⁴ and was probably the site of an earlier house. Early estate plans suggest that there was previously a small settlement on the site, possibly called 'Wood Green' which was displaced by enclosure into deer parks between 1618 and 1620. This became a Royal residence from 1607. However, in 1650, the house was largely destroyed.
- 2.3.10 A number of moated sites were built throughout the Medieval period and were generally regarded to be prestigious residences, rather than practical military defences. Remains of these sites are visible in several places within the Broxbourne landscape, at Hell Wood (to the south of Wormley, Perrior's Manor (south of Factory Farm), Half Moat Manor, Hoddesdon Park Wood and Hailey Hall.
- 2.3.11 During the medieval period the use of the River Lea became formalised as new cuts were made to improve navigation and the river was diverted for watermills. The process was completed with the establishment of the canal on the River Lea in 1799.

⁴ Broxbourne Local History: The Story of Cheshunt and Hoddesdon, 1998, Hicks, Cheshunt (<http://www.albury-field.demon.co.uk/bxhis.htm>)

- 2.3.12 Mills along the River Lea were a particular feature of the medieval landscape, when a number were built to service the growing agricultural industry. At its peak, Waltham Abbey had three mills used for grinding corn.
- 2.3.13 The settlements of Cheshunt, Hoddesdon and Wormleybury also have medieval origins and were mentioned in the Domesday Book as 'Cestrehunt', 'Hoddesdone' and 'Womelai' respectively.

Post Medieval (16th century to 1900)

- 2.3.14 During this period, the growth of the London market and the development of the transport network led to an increase in settlement and the further development of country estates.
- 2.3.15 The 19th century was particularly notable for the introduction of exotic plants, and Wormleybury Park is particularly famed for its 19th century plant collections. The country house was built by Sir Abraham Hume in the 1770's on the site of an earlier house.
- 2.3.16 During the post-medieval period, the River Lea became particularly important for the development of the gunpowder industry, with special barges created to transport gunpowder from the mills at Waltham Abbey, southwards along the River Lea to the Woolwich Arsenal alongside the Thames.
- 2.3.17 Railways were introduced around 1845, when the area became more accessible for tourists, commuters and the transportation of cargo. In response, new housing was created for London's first commuters, eventually infilling and urbanising land up to Hoddesdon.

Modern Period (1901 – present day)

- 2.3.18 The areas surrounding Wormley and Cheshunt were well-known for their fencing and basketry industries during the 1900s, and a number of surviving field names exhibit tree management related words such as 'osiers' (willow whips).
- 2.3.19 The horticultural industry also has a long history within the Broxbourne landscape, with its roots in medieval market gardens in the fertile river valley. The industry blossomed after the removal of tax on glass in 1845, after which, the landscape from Hoddesdon to Cheshunt were dominated by glasshouses. The industry continues today and nurseries which are trading provide plants and flowers for sale locally and to larger retailers. There is evidence of historic local decline in this industry and this is indicated by sites of former glasshouses which over time have become overgrown with wild flora and fauna.

- 2.3.20 World War II defences are visible within the current landscape. A key example is the Bofors Anti-aircraft gun platform to the south-east of Cheshunt railway station.
- 2.3.21 During the 1950's and 60's large-scale gravel extraction was a key feature of the landscape, which created vast visual changes within the Lea Valley. Since extraction has ceased, however, the flooded gravel pits have been developed as areas for recreation and wildlife conservation. Within Broxbourne, the Lea Valley forms part of the Lee Valley Regional Park, which stretches for 26 miles along the River Lea, from the River Thames in East London to Ware in Hertfordshire. The Lee Valley Regional Park Plan⁵ identifies a vision for the park in the 21st Century, which includes its role as a 'cohesive, sustainable and valued regional green lung; an area of enhanced and protected natural biodiversity for the enjoyment of all and; and accessible and permeable integrated visitor attraction to serve the region, which will include local communities.

2.4 Forces for Change in the Landscape

- 2.4.1 The landscape, ecological and historic character of Broxbourne Borough is dynamic, and is constantly changing in response to human activity and natural processes. Historically changes in agriculture and horticulture, the socio-economic structure of local communities, and industrialisation have all had important impacts. The landscape has been undergoing continuous change for centuries, and the Borough experienced particularly rapid change between the late nineteenth century through to the twentieth century with industrialisation and the growth in the horticultural industry, which was an important supplier of food to the growing population of London. Located as it is adjacent to the important transport corridor of the Lea Valley, which has also traditionally supplied water for industry and minerals for construction, it has experienced very significant change over the last one hundred years. The pace of change is still fast as development and other environmental pressures are having increasingly visible, cumulative and far-reaching effects on landscape character. There are increasing demands for road transport, new infrastructure and for residential and commercial development to keep abreast with economic growth. The landscape is also undergoing significant change from new patterns of agricultural land use as the industry responds to changing climatic and market conditions.

Agriculture and Land Management

- 2.4.2 Changes in agricultural methods, levels of demand and market economics have shaped the development of the agricultural industry over hundreds of years. Agriculture in the Borough of

⁵ <http://www.leevalleypark.org.uk>

Broxbourne has been particularly strongly influenced in more recent times by its close proximity to London and the presence of good communication links along the Lea Valley. The local glasshouse nursery industry developed rapidly at the end of the nineteenth century and continued to expand to its peak in the 1930s in response to the growth in demand, however the local glasshouse nursery industry has seen significant decline in the recent past which has resulted in redundant glasshouses. Whilst the development of glasshouses and development of some of these sites has had an impact on the Borough's landscape, any future development akin to this or for residential development on these sites would result in further losses of the landscape.

2.4.3 The reform of the Common Agricultural Policy, and Government policy to reduce production subsidies in favour of environmental subsidies, provides significant opportunities to safeguard and restore characteristic features of the agricultural landscape through Environmental Stewardship schemes.

2.4.4 Key changes include:

- The modernisation and increased mechanisation of agriculture, and increases in demand for food resulting in rationalisation of early, smaller scale field systems into larger field units, conversion of unproductive land (causing loss of Medieval Deer Parks and historic parkland) and intensification;
- A local decline in horticulture and use of the land for food production due to changes in the market gardening industry, leading to a decline in the number of active nurseries and dereliction of associated glasshouses;
- Changes in the rural economy, resulting in farm diversification and the use of former agricultural land for housing and industrial development;
- Introduction of fencing and other ancillary 'horsiculture' equipment and structures, particularly within urban fringe areas;
- Loss of blocks of mature semi-natural woodland due to an intensification of farm practices;
- Loss of hedgerows and mature hedgerow trees and a decline in the management of remaining hedgerows;
- A decline in traditional woodland management techniques, particularly coppicing;
- Nutrient pollution from riverside arable and pasture land and run off from the urban road system affecting the water quality of watercourses ;
- Over maturity and non-replacement of old tree stock within hedgerows has resulted in the loss of trees as landscape features;
- Increasing transfer of land, especially with residential properties, from agricultural to amenity use;

- Redevelopment of agricultural buildings to residential, amenity or industrial use creating broader economic activity but a change in landscape character.

Built Development

2.4.5 As elsewhere in the country, housing development and the expansion of urban areas into rural areas represents a significant pressure for change in Broxbourne Borough. Continued urban development around Cheshunt and Hoddesdon Urban Areas, particularly between Goff's Oak and Hammond Street has had impacts on local landscape character. The challenge for the future is to accommodate housing development without eroding local character and distinctiveness.

2.4.6 Key forces for change are:

- Development pressures, particularly for new housing in rural areas which will affect the character of the existing settlements and potentially cause further suburbanisation;
- Isolated development such as new single dwellings and extension to existing dwellings using materials that are out of character with traditional building styles;
- Loss of vernacular architectural features such as old barns, cottages and industrial heritage features.
- Modern intensive residential developments in open locations and on the sites of former nurseries;
- Pressure for development on main road corridors such as transport service industries in highly visible open landscapes;
- Pressure for further expansion of settlement and new development along rural lanes threatening the character of scattered farmsteads and the character of the network of rural roads.

Transport and Traffic

2.4.7 Reflecting the national trend, the Borough has seen increasing levels of car usage. This is leading to major congestion, pollution problems, and pressures for new road schemes in the countryside between the settlements. The modern design of new road infrastructure and road improvements can significantly affect landscape character.

2.4.8 Key forces for change are:

- Increased traffic on the rural road network, plus improvements to the lanes including kerbing, widening, signing and new river crossings which, in places create a more 'urban'

character. Increased traffic volumes and speeds also diminish the tranquillity of the rural landscape;

- Pressure to build new roads;
- The presence of major transport corridors particularly the M25, A10 and trunk roads has brought pressures for development and associated amenity planting and signage;
- Upgrading of the rail network may create new types of pressure and the building of new multi-modal transport interchanges.

Access, Recreation and Leisure

2.4.9 In recent years there has been a substantial increase in the number and proportion of people taking part in outdoor recreational activities. Tourism, leisure and water-related sports and activities within the Lea Valley make a vital contribution to local employment.

2.4.10 Key forces for change are:

- Recreational pressure within the Lea Valley and for formal recreational facilities such as golf courses and sports facilities;
- Increases in visitor numbers to key sites giving rise to demand for supporting ancillary infrastructure and having potential adverse effects on historic landscapes, archaeological sites and nature reserves.

Climate Change

2.4.11 Climate change is a global issue, and evidence in the last ten years suggests that it is leading to increased average annual temperatures, wetter winters, and more extreme weather events such as flash flooding in the summers. The scenarios produced by the UK Climate Impacts Programme (UKCIP02) suggests that by 2080 the UK could experience:

- An increase of current average temperatures by 2-3.5oC;
- Drier summers and milder, wetter winters;
- More frequent summer droughts with flash flooding, flooding in winter and more frequent storms;
- A rise in sea level.

2.4.12 Whilst the precise effects of climate change remain uncertain and subject to debate it is clear that it could have both direct and indirect impacts on landscape character at national, regional and local levels. The potential implications for landscape character in Broxbourne Borough include changes in habitats and species composition, habitat fragmentation, water resources, soils, agricultural land use, recreation and tourism and cultural heritage. Rises in river levels,

frequent summer droughts and winter flooding all have implications for the landscape of the Borough of Broxbourne as they do elsewhere in the country.

Energy Generation and Supply

- 2.4.13 Changes in the way in which energy is generated are evident throughout the country and this is no different within Broxbourne Borough. Potential impacts include the introduction of sources of renewable energy such as wind turbines and the planting of biofuels, the latter of which is already evident in plans to establish new renewable energy projects as part of the ongoing development of the Lea Valley Regional Park. These new developments have potential to bring about significant change in the landscape.

Telecommunications

- 2.4.14 New telecommunications technologies and particularly the growth in popularity of cellular telephones has generated demand for very significant increases in the number of telecommunications masts. Technical requirements often require that these are sited on unobstructed high ground where they can become prominent man made features in rural landscapes.

Minerals Extraction and Waste Disposal

- 2.4.15 Broxbourne Borough has a symbiotic history with mineral extraction, particularly along its eastern edge within the Lea Valley. The effects of past minerals/landfill operations on the landscape have included changes to field pattern, loss of landscape features and the introduction of incongruous landforms. In many places, former sites have been restored to agriculture, woodland or other uses. Future restoration of mineral sites could potentially be unsympathetic to landscape character if not designed with care.

3.0 LANDSCAPE CHARACTER TYPE PROFILES

3.1 General

3.1.1 This section provides an overview of landscape character across the Borough as a whole within its national and county context, and provides detailed 'profiles' of the five Landscape Character Types and nine Landscape Character Areas identified by the assessment. The profiles describe the character of each landscape character unit, and set out management strategy and objectives and guidelines for informing environmental land management initiatives and land use planning decisions.

3.1.2 Judgements about the acceptability, or otherwise, of development and/or land management proposals should take account of:

(i) the description and evaluation of the relevant Landscape Character Type(s) related to the proposal; and

(ii) the description and evaluation of the relevant Landscape Character Area(s) related to the proposal.

3.2 Landscape Character Context

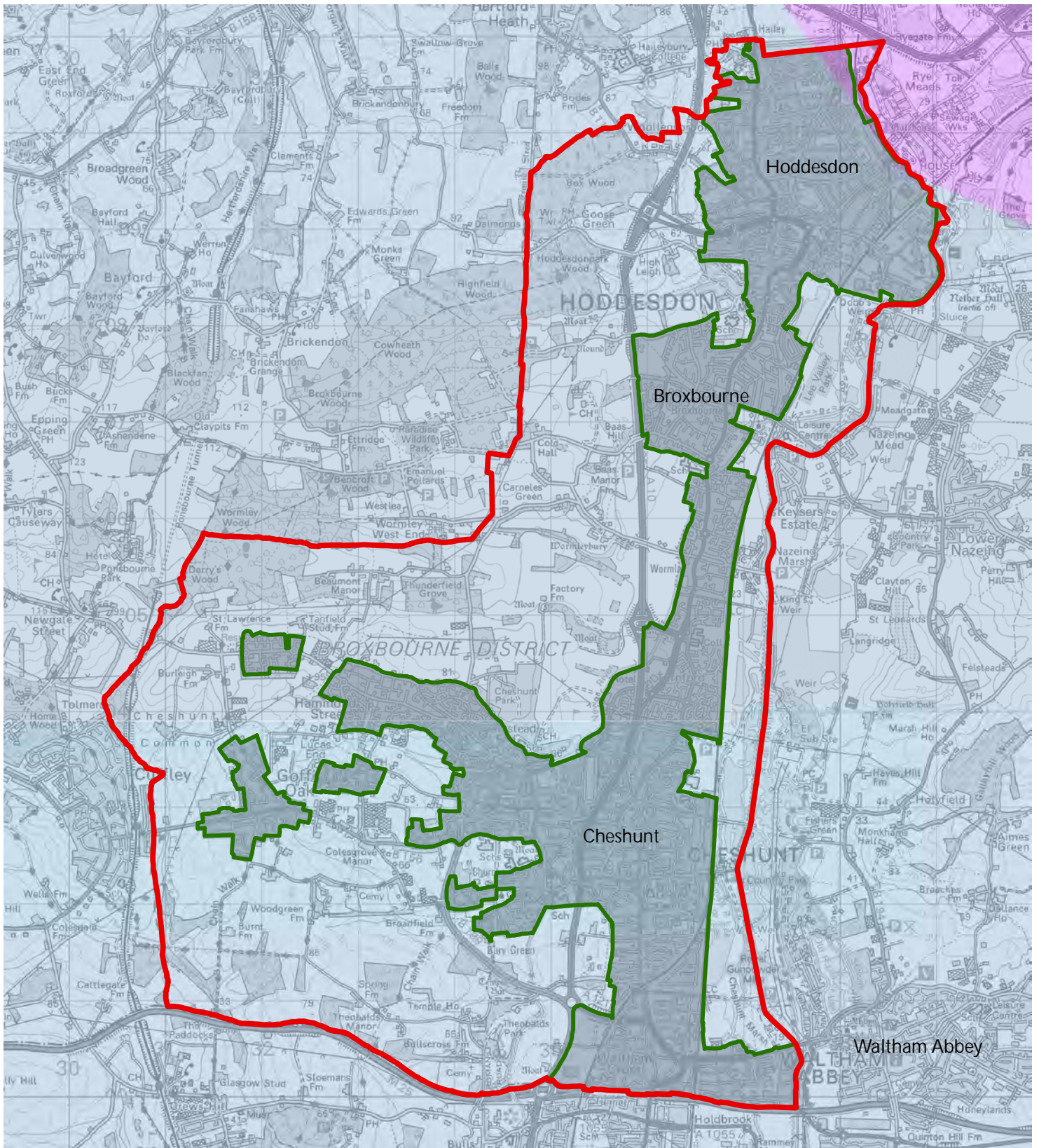
3.2.1 The descriptions of Landscape Character Types and Areas within Section 3.3 should be read in conjunction with the information set out below to ensure that the contextual relationship within the wider landscape is understood.

National Character Context

3.2.2 The national context for defining the boundaries of different Landscape Character Units within the Borough is provided by the Countryside Character Areas from the Character of England Map⁶.

3.2.3 The Borough falls within the Countryside Character Area (JCA) Northern Thames Basin (LCA111) as defined at 1:250,000 scale on the Character of England Map (Countryside Agency, English Nature Rural Development Service, English Heritage, updated 2006) and illustrated in **Figure 3.1**. Two small parts of the Borough are shown as falling within JCA 86, the (South Suffolk and North Essex Claylands, but at this national scale the boundaries of the JCAs are indicative and represent transitional zones between neighbouring Areas. The landscape

⁶Character of England Map (Countryside Agency, English Nature Rural Development Service, English Heritage, updated 2006).



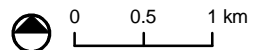
KEY

National Joint Character Areas

- 86 South Suffolk and North Essex Clayland
- 111 Northern Thames Basin

- Borough of Broxbourne Boundary
- Study Area Boundary

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Figure 3.1
National Joint Character Areas

character of these two small areas are judged to be consistent with the character of other parts of the Lea Valley and therefore for the purposes of this study the Borough is considered to be entirely representative of LCA 211.

- 3.2.4 The character of these Countryside Character Areas is described in Countryside Character Volume 7, published by the Countryside Agency⁷.
- 3.2.5 The Countryside Character Areas provide the contextual framework within which more detailed classifications of Landscape Character Units at 1:50,000 (County) and 1:25,000 (District) can be defined.

County Character Context

- 3.2.6 The current landscape character framework for Hertfordshire County is provided by the Hertfordshire County Landscape Character Assessment⁸. In this assessment, the Borough is covered by the following Landscape Character Areas, defined at 1:50,000 scale.

- Area 57: Thunderfield Ridges;
- Area 58: Wormleybury and Cheshunt Park;
- Area 59: Lea Valley Marshes;
- Area 61: Broxbournebury;
- Area 62: Broxbourne Woods Complex;
- Area 64: Hertford Heath;
- Area 80: Rye Meads.

The Borough Assessment

- 3.2.7 Five generic Landscape Character Types have been identified within the Borough. These are:
- Plateau Ridges and Slopes: Wooded Ridge (Type A);
 - Plateau Ridges and Slopes: Wooded Farmland (Type B);
 - Plateau Ridges and Slopes: Wooded Parkland and Farmland (Type C);
 - River Valley Floodplain: Flooded Gravel Pits and Marshes (Type D);
 - River Valley Floodplain (Type E).

⁷Countryside Character Volume 7 – South East and London (Countryside Agency, 1999).

⁸Hertfordshire Landscape Strategy, Volume 2: Landscape Character Assessment, Evaluation and Guidelines for Southern Hertfordshire, The Landscape Partnership, 2001.

- 3.2.8 Each of the above Landscape Character Types has a distinct and relatively homogenous character with similar physical and cultural attributes, including geology, landform, land cover, biodiversity and historical evolution.
- 3.2.9 Within each of the five generic Landscape Character Types, nine Landscape Character Areas have been identified within the Borough. The Landscape Character Areas reflect distinctive variations in local character within each Landscape Character Type based on visual analysis in the field to assess how different combinations of physical features and perceptual qualities such as scale, pattern, tranquillity, cultural associations etc. create areas of distinctive landscape character.
- 3.2.10 The Landscape Character Areas are (see **Figure 3.2**):

Plateau Ridges and Slopes: Wooded Ridge (Type A)

A1: Wormley and Hoddesdonpark Woods;

Plateau Ridges and Slopes: Wooded Farmland (Type B)

B1: Thunderfield;

B2: Goff's Oak and Hammond Street

B3: Theobald's Estate

Plateau Ridges and Slopes: Wooded Parkland and Farmland (Type C)

C1: High Leigh and Carneles Green

C2: Wormleybury and Cheshunt Park

River Valley Floodplain: Flooded Gravel Pits and Marshes (Type D)

D1: Mid Lea Valley

D2: Turnford and Thistly Marshes

River Valley Floodplain: Farmland (Type E).

E1: Bury Green

3.3 Landscape Character Types and Areas

- 3.3.1 This section of the report describes the variations in the character of the Broxbourne Landscape. For the purposes of the Borough-wide assessment, emphasis is placed upon the definition, characterisation and evaluation of Landscape Character Types at a scale of 1:25,000. Where appropriate, to reflect local variations in character, Landscape Character

Areas have been identified within Landscape Character Types. The detailed 'profiles' for each of the Landscape Character Types shown on **Figure 3.2** are structured as follows:

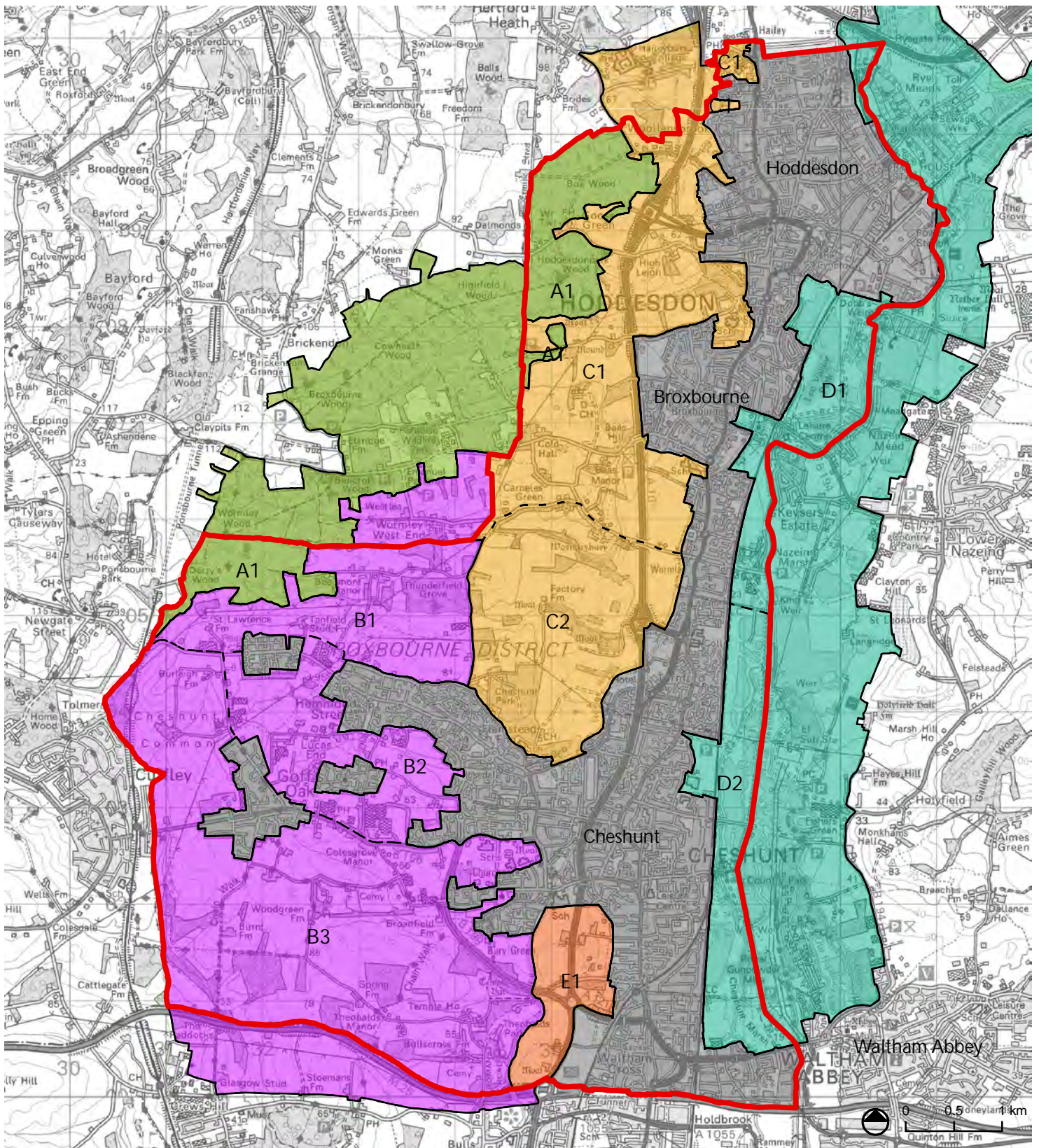
Character Assessment

- Location
- Key Characteristics
- Landscape Character
- Physical Influences
- Landscape Character Sub-Areas

Landscape Evaluation

- Forces for Change (Past, Current and Future)
- Vision, Objectives/Guidelines for Managing Landscape Change.

3.3.2 As acknowledged by the Countryside Agency's guidelines, landscape is a continuum and character does not in general change abruptly on the ground. More commonly, the character of the landscape will change gradually rather than suddenly, and therefore boundaries drawn between Landscape Character Types and Areas shown in **Figure 3.2** should be considered to reflect zones of transition in many cases. In addition, the boundaries drawn around Landscape Character Types and Areas have been defined and mapped at a scale of 1:25,000, and the assessment is therefore only suitable for use at this scale. This should be taken into consideration when the assessment is being used to inform decision-making to development and land management proposals.



KEY

- | | | |
|--|--|---|
| <ul style="list-style-type: none"> A Plateau Ridges and Slopes: Wooded Ridge A1: Wormley and Hoddesdonpark Woods B Plateau Ridges and Slopes: Wooded Farmland B1: Thunderfield B2: Goff's Oak and Hammond Street B3: Theobald's Estate | <ul style="list-style-type: none"> C Plateau Ridges and Slopes: Wooded Parkland and Farmland C1: High Leigh and Carneles Green C2: Wormleybury and Cheshunt Park D River Valley Floodplain: Flooded Gravel Pits and Marshes D1: Mid Lea Valley D2: Turnfield and Thistly Marshes E River Valley Floodplain: Farmland E1: Bury Green | <ul style="list-style-type: none"> Urban Borough of Broxbourne Boundary Study Area Boundary |
|--|--|---|

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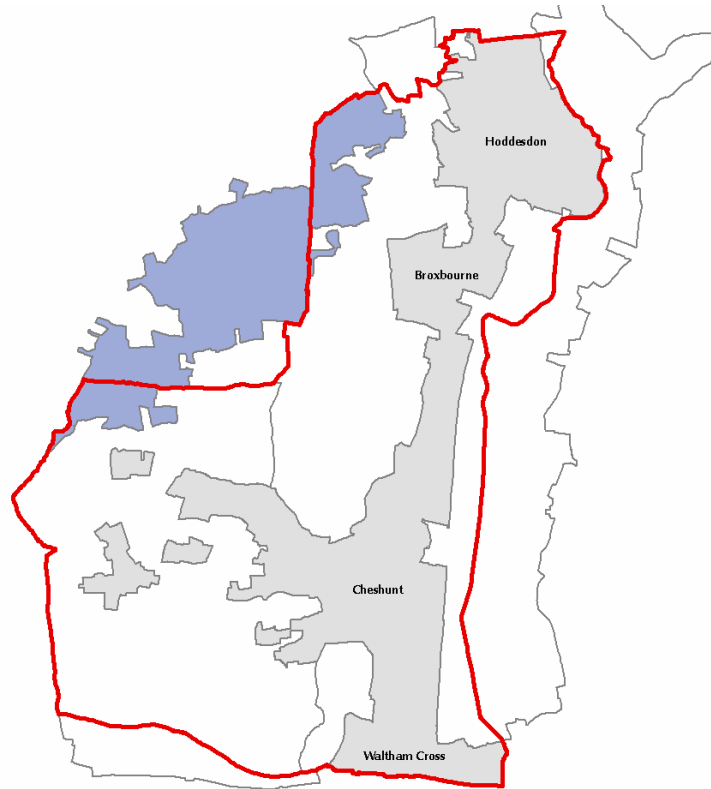
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LANDSCAPE CHARACTER ASSESSMENT**

Figure 3.2
Landscape Character Types and
Areas in Broxbourne Borough

TYPE A: PLATEAU RIDGES AND SLOPES: WOODED RIDGE



CHARACTER ASSESSMENT

Location

This Landscape Character Type occurs at the northern edge of the Borough and extends into East Hertfordshire District to the north. The ridge of higher land overlooks wooded farmland to the south (within Landscape Character Type B) and a patchwork of parkland and farmland to the east (within Landscape Character Type C).

Key Characteristics

- Relatively broad ridge of higher land which is covered by a dense and extensive swathe of hornbeam coppice woodland;
- A series of narrow, west-east running stream corridors (including Wormleybury Brook and Spital Brook) cut across the ridge and contribute to an underlying undulating landform of smaller ridges and slopes;
- Woodland provides a strong sense of enclosure;
- Several minor, rural roads run east-west through the woodland, often enclosed by overhanging trees, which create relatively enclosed green corridors;

- A pattern of small pasture fields within, or at the edges of the woodland;
- Relic boundary features along road corridors.

Landscape Character



This Landscape Character Type encompasses an extensive swathe of woodland which covers a ridge of higher land. The underlying grain of the landscape consists of a series of ridges and slopes, defined by several west-east running stream corridors which cut across the landscape. The mature woodland predominantly consists of a combination of extensive hornbeam coppice and oak woodland. Within the woodland there is a strong sense of enclosure and tranquillity, with dense vegetation limiting views to adjacent Landscape Character Types. Pockets of small pasture fields, located within, and at the edges of the woodland provide contrast with adjacent woodland. Here, there is a stronger sense of openness, with open views across adjacent Wooded Farmland and Parkland as a feature. This is a mature and unified landscape, with a strong sense of historic continuity. Ancient hornbeam pollards and relic field boundaries and ditches are key features within the woodland which contribute to recognisable local sense of place. The line of Ermine Street (a Roman Road) also runs north-south through this landscape. Settlement pattern is sparse, consisting of occasional scattered farms at the edge of the woodland. A series of minor, rural roads run east-west through the woodland. In several places, trees arch over the road corridors, providing a strong sense of enclosure and creating green corridors.

Physical Influences

The geology of this Landscape Character Type consists of a series of gravel deposits overlying London Clay. The underlying topography comprises a series of undulating ridges and slopes, resulting from the pattern of meandering streams which run east-west along shallow valleys, following the courses of Wormleybury Brook and Spital Brook. Overlying this, the wider

landscape forms a broad ridge. Land cover is dominated by extensive broadleaf woodland containing a mixture of sessile oak, hornbeam, pedunculate oak, birch, ash, hazel, elder, field maple, dogwood, hawthorn and blackthorn. Within the woodland there is a rich ground flora which is often dominated by bluebells. Pockets of pasture fields are also characteristic of the land cover.

Landscape Character Sub-Areas

A1: Wormley and Hoddesdonpark Woods

This Landscape Character Area forms part of a wider area of woodland which extends outside the Borough boundary to the west. Although a series of minor roads cut through the woodland, these corridors have a predominantly rural character and do not generally detract from the overall sense of tranquillity and enclosure. Much of the woodland within this area is ancient and is interspersed with a series of woodland glades, which provide a sense of space and openness. Sessile Oak and Hornbeam are the dominant tree species, bluebells providing a colourful ground flora at certain times of the year. Alder often demarcates the path of stream corridors which cut east-west across the woodland. In addition, Ancient Hornbeam pollards mark several boundaries within the woodland and contribute to recognisable sense of place. Views within the area are generally limited by dense vegetation; however this woodland provides an instantly recognisable landscape feature within views from adjacent Landscape Character Types.

The historic development of this sub-area is defined primarily as Ancient Woodland. The current landcover reflects the historic landscape type and is visible in the current landscape through survival over time. Significantly the HLC data for Hertfordshire marks certain areas of this sub-area as Pre-18th Century 'Co-Axial' Enclosure within the relict landscape layers (see **Figures 3.3a, 3.3b and 3.3c**).

Pre-18th Century 'Co-Axial' Enclosure are characterised by roughly parallel boundaries, sinuous in form, and with irregular subdivisions. The areas of relict enclosure around Wormley Woods are specifically discussed in the HLC report for Hertfordshire and have been tentatively dated to the Bronze Age. Field enclosures, where they do survive, therefore, may be prehistoric but will certainly pre-date the medieval period and are likely to be Anglo-Saxon at the latest.

Where field boundaries do occur within this sub-area they should be maintained and their form conserved in order to maintain a significant feature of the historic landscape within this sub-area.

LANDSCAPE EVALUATION

Forces for Change

Past Landscape Changes

Observable changes in the past include:

- Change from pre 18th Century pre-Medieval co-axial fields to ancient woodland;
- Decline in traditional woodland management practices such as coppicing.

Current Landscape Condition

Overall, landscape within Plateau Ridges and Slopes: Wooded Ridge Landscape Character Type appears to be in generally good condition. Although this is a predominantly mature and well managed landscape, with few detracting elements, there is evidence of decline in coppicing in places.

Future Landscape Changes and Opportunities

In the short term (5 years) it is likely that there will be positive changes in the form of continued management and enhancement of Wormley-HoddesonPark Wood Site of Special Scientific Interest (SSSI) with its combination of oak and coppiced hornbeam woodland. Negative changes may include the amalgamation of farms at the edges of the woodland, leading to loss, neglect or removal of trees. An associated increase in pressure on minor rural roads crossing the landscape may result in additional signage which could lead to a loss of local distinctiveness and localised character.

Longer term (20+ years) will be dependent on prevailing incentives and policies and it is therefore challenging to be prescriptive. Potential longer-term changes within the Plateau Ridges and Slopes: Wooded Ridge Landscape Character Type are outlined below:

Agricultural Change and Land Management

The regeneration and enhancement of woodland habitats will mature over the long term and reinforce the key landscape characteristics of this Landscape Character Type.

Climate Change

Fluctuating temperatures, precipitation and general weather patterns will continue to affect this landscape, leading to the possible spread of invasive species and changes in species composition of habitats. It is also possible that climate change will lead to an increase in flash flooding and erosion of the stream corridors that run through the woodland and increased risk of wild fires.

Development

There is potential pressure from visitor-related developments within the woodland, such as car parking and facilities affecting the quality of the landscape. Related to this, increasing traffic on narrow roads and car park development is likely to change the character of minor roads and tracks. There is also potential pressure from a spread of new housing development within adjacent Landscape Character Types, encroaching on the woodland edges.

Sensitivities and Capacity for Change

The Plateau Ridges and Slopes: Wooded Ridge Landscape Character Type is considered to have moderate visual sensitivity overall as a result of the predominantly strong sense of enclosure provided by woodland cover, which limits views across and within the area from several locations. There is, however, strong intervisibility with adjacent Landscape Character Types and the woodland on elevated topography a key features within views to the area. In addition, this Landscape Character Type encompasses a diverse patchwork of mature native oak and hornbeam trees which are key landscape and historic landscape features. Relic field boundaries within the woodland are also culturally sensitive features. The stream corridors, with associated mosses and ferns provide sensitive ecological habitats. Overall, this landscape is considered to have high landscape character sensitivity. As a result of the above factors, this Landscape Character Types is considered to have limited capacity to accommodate change without compromising key characteristics.

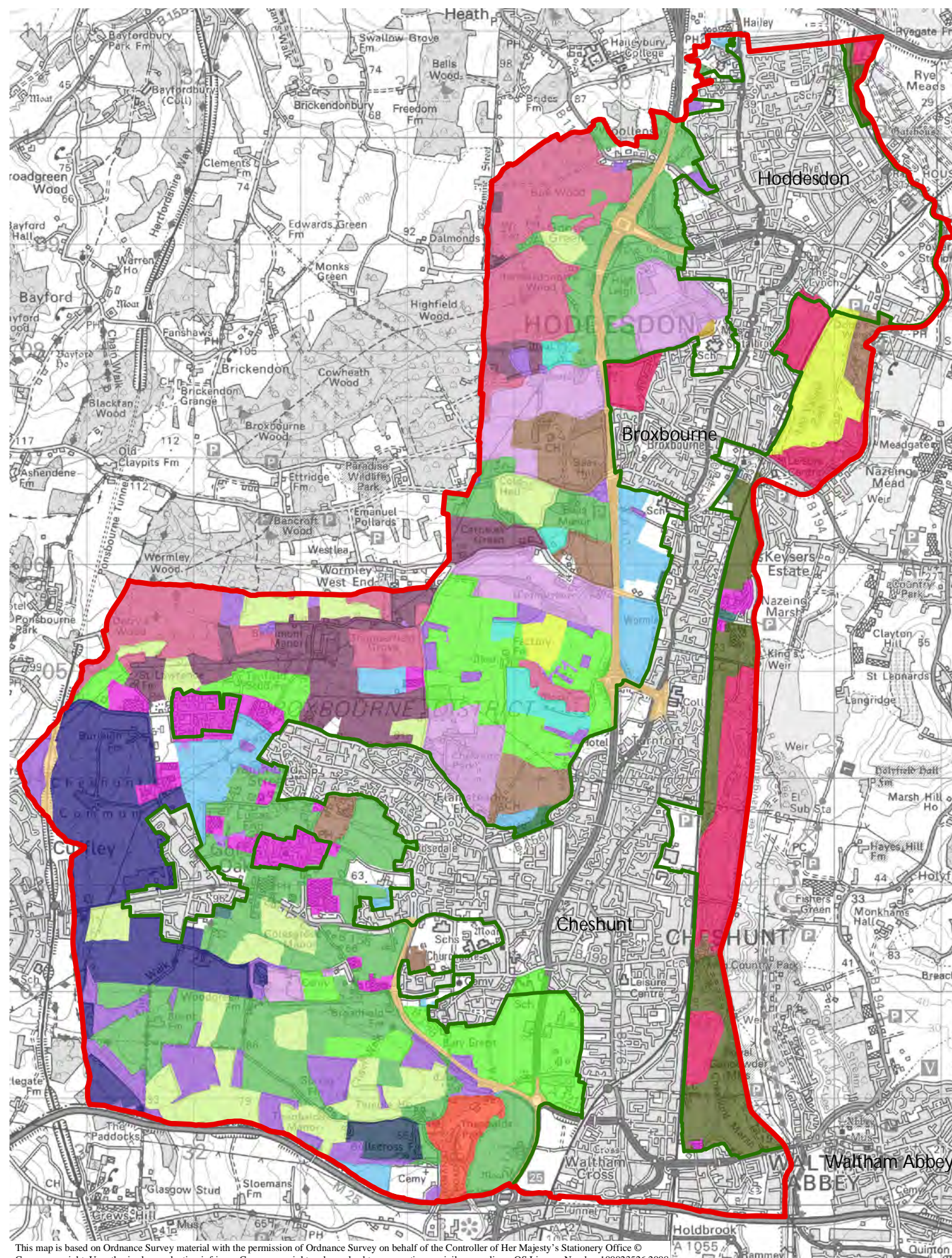
GUIDELINES FOR MANAGING LANDSCAPE CHANGE

Vision

The overall strategy for this Landscape Character Type is to conserve and enhance the distinct swathes of mature oak woodland and hornbeam coppice. In addition, the diverse stream corridors should be conserved as key landscape and ecological features.

Objectives/Guidelines

- **Conserve** and **enhance** broadleaved woodland;
- **Encourage** management of hornbeam coppice using traditional techniques;
- **Manage** water quality within the stream corridors to minimise pollution;
- **Conserve** the distinctive pattern of small pasture fields at the edges of the woodland;
- **Conserve** mature hedgerows which line road corridors and pasture fields;
- **Promote** natural regeneration of woodlands and encourage the use of seeds and plants of local provenance;
- **Promote** initiatives to reintroduce traditional woodland management;
- **Ensure** that any new woodland planting respects existing landscape pattern and does not destroy existing historic landscape features, such as relic field patterns, boundaries or ditches;
- Seek to **maintain** and **improve** the footpath network within woodland using locally sourced materials for surfacing where appropriate.

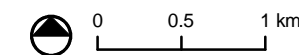


KEY

HLC Code

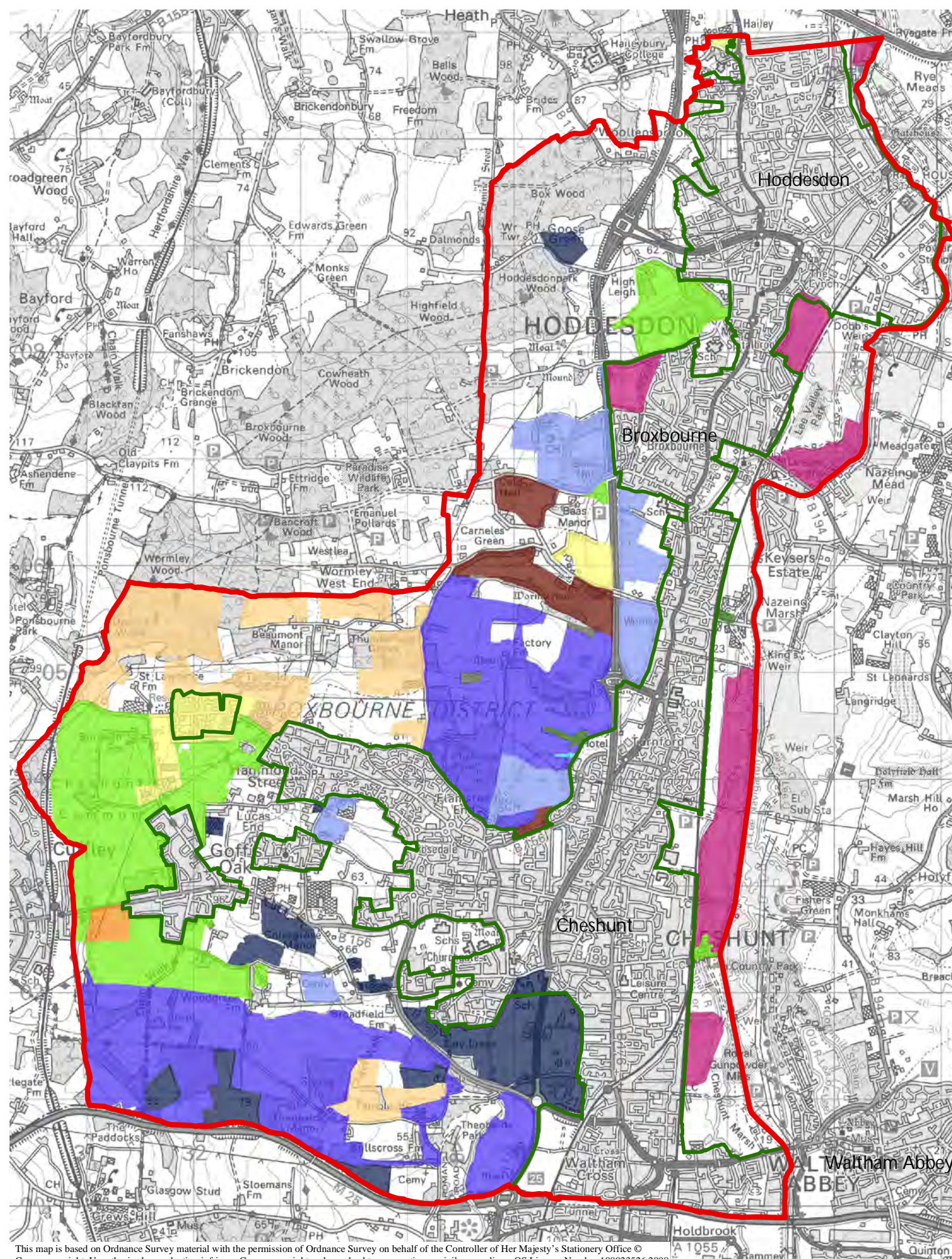
- AEF-cf - Pre-18th C Coaxial Enclosure
- AEF-if - Pre-18th C Irregular Enclosure
- BUM-ba - Built-up Areas - Urban Development
- BUM-hs - Hospital, School, University
- COM-mr - Motorway, Railway
- CWH-cb - Commons with a Built Margin
- CWH-cm - Commons with an Open Margin
- HOR-ag - Allotments
- HOR-ng - Nursery with Glass House
- IMW-mp - Enclosed Meadow
- IND-in - Industrial
- LEF-le - Piecemeal 18th-19th C Enclosure by Agreement
- LEF-pe - Formal Style Parliamentary 18th-19th C Enclosure
- MIN-de - Disused Mineral Extraction
- MIN-rl - Restored Land
- MIN_me - Mineral Extraction
- MIS-st - Stud Farm
- PGR-ip - Informal Parkland
- PGR-tl - Leisure / Recreation
- TEF-bl - Boundary Loss
- TEF-te - 20th C Enclosure
- WAT-wr - Water Reservoir
- WDS-aw - Ancient Woodland
- WDS-wp - 19th-20th C Woodland Plantation
- Borough of Broxbourne Boundary
- Study Area

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Figure 3.3a
Historic Landscape Character -
HLC Codes

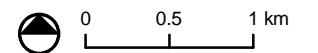


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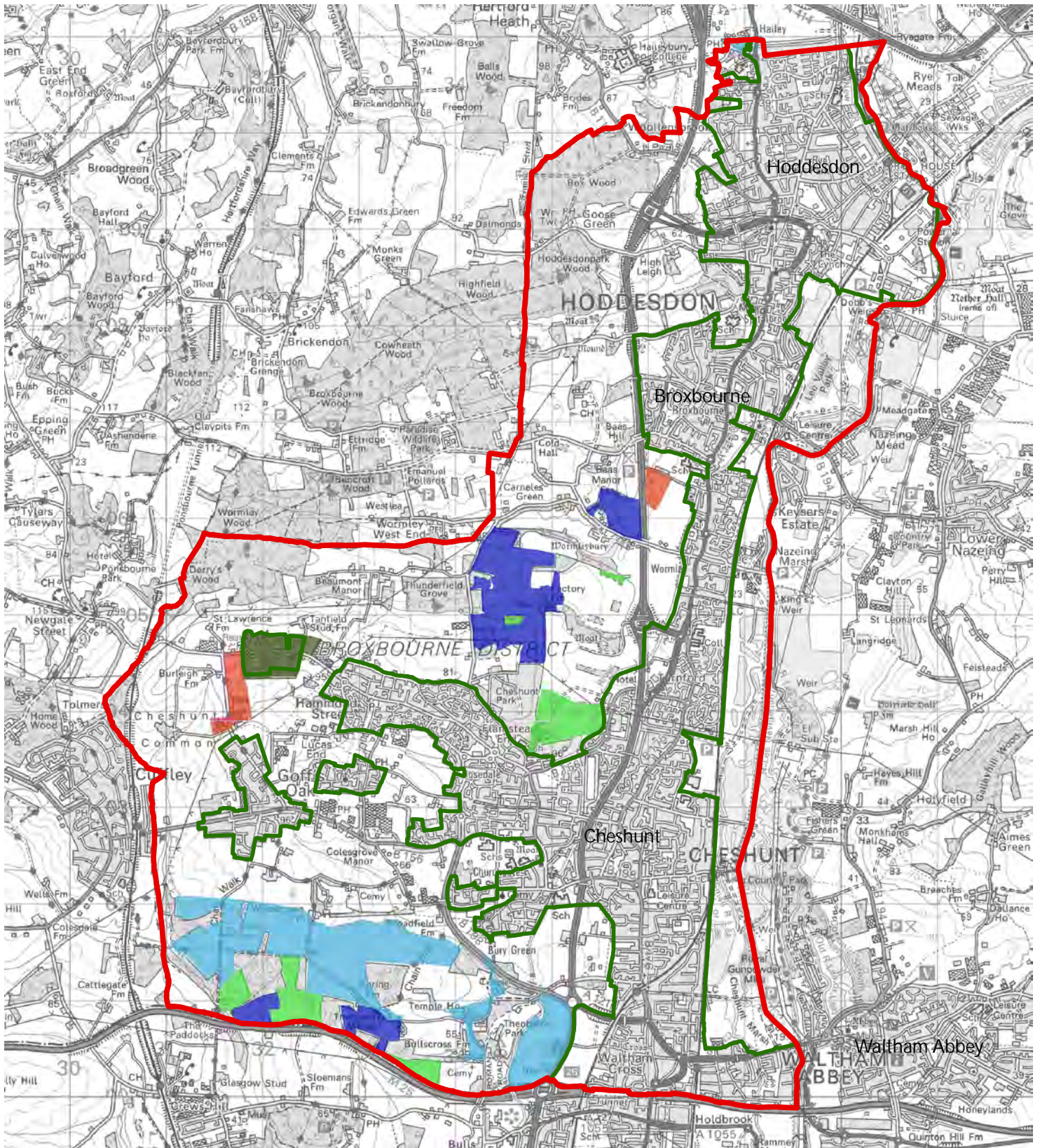
HLC Code

- AEF-cf - Pre-18th C Coaxial Enclosure
- AEF-cm - Commons with an Open Margin
- AEF-if - Pre-18th C Irregular Enclosure
- HOR-ag - Allotments
- HOR-ng - Nursery with Glasshouse
- LEF-le - Later Enclosure - Piecemeal by Agreement
- LEF-pe - Formal 18th-19thC Parliamentary Enclosure
- Mar-rp - Unimproved Rough Pasture
- MIN-me - Mineral Extraction
- MIS-mo - Mixed Origin
- PGR-dp - Medieval Deer Park
- PGR-ip - Informal Parkland
- Borough of Broxbourne Boundary
- Study Area

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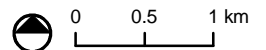


KEY

HLC Code

- | | |
|--|--|
|  AEF-cf - Pre-18th C Coaxial Enclosure |  PGR-dp - Medieval Deer Park |
|  AEF-cm - Commons with an Open Margin |  Borough of Broxbourne Boundary |
|  AEF-if - Pre-18th C 'Irregular' Enclosure |  Study Area |
|  AEF-sf - Pre-18th C 'Irregular Sinuous' Enclosure | |

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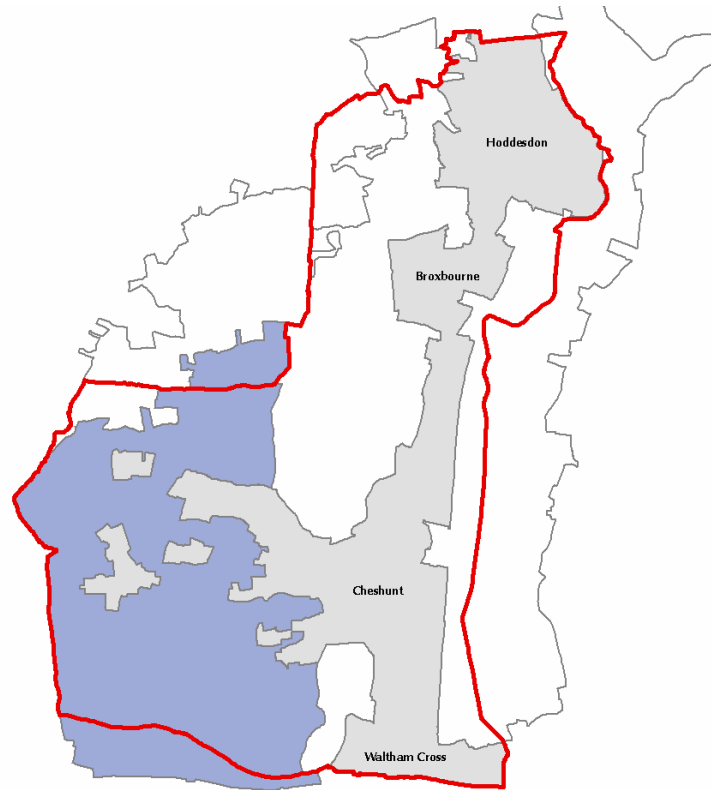
 CHRIS BLANDFORD ASSOCIATES
www.cba.uk.net

AUGUST 2008

**BOROUGH OF BROXBOURNE
LANDSCAPE CHARACTER ASSESSMENT**

Figure 3.3c
Historic Landscape Character -
HLC Codes R2

TYPE B: PLATEAU RIDGES AND SLOPES: WOODED FARMLAND



CHARACTER ASSESSMENT

Location

This Landscape Character Type covers the western half of the Borough, to the west of Cheshunt and surrounding Goff's Oak and Hammond Street. To the north, this landscape is overlooked by the Plateau Ridges and Slopes: Wooded Ridge Landscape Character Type (A). To the south, this Type extends outside the Borough boundary to the south of the M25. To the east, the underlying pattern of ridges and slopes continues, however land cover is dominated by a patchwork of parkland and farmland (Landscape Character Type C).

Key Characteristics

- Undulating landform encompassing a series of ridges and slopes, which result from several narrow stream valley corridors cutting across the landscape;
- A relatively small-scale patchwork of pasture fields interspersed with regular woodland blocks, which are often located on the slopes;
- Views from lower ground, within the stream corridors are limited by adjacent sloping topography and woodland cover, however, from higher ridges, long distance open views across adjacent Landscape Character Types can be gained;

- Tall hedges often line road corridors, which tend to run east-west across the landscape and are predominantly rural in nature;
- The B198 and A10 are the exceptions to this, introducing a source of noise and movement;
- Glasshouses associated with nurseries or former nurseries are recognisable features of the landscape;
- Settlement pattern is dominated by suburban housing at Goff's Oak and Hammond Street, and more recent housing developments at the edges of these areas;
- Scattered single farmsteads and manor houses are also a feature;
- Overall sense of tranquillity varies dependent on distance from urban edges and main road corridors.

Landscape Character



There is an intermittent sense of enclosure within this Landscape Character Type as a result of the undulating topography, which limits views from within stream corridors; and regular woodland blocks which also restrict views. Despite this, long distance open views from higher ridges are also a feature which contributes to recognisable sense of place and orientation. Much of this landscape is characterised by a small-scale patchwork of pasture fields, delineated by mature hedgerows with hedgerow trees. The landscape is crossed by a series of road corridors. Some are predominantly rural in nature and lined by tall hedgerows. Others, such as the main A10 and B198 corridors introduce a source of noise and movement. Settlement pattern is dominated by suburban housing at Goff's Oak and Hammond Street and more recent housing at the edges of these areas. The landscape surrounding these housing areas often displays urban fringe characteristics, such as horsiculture (with an associated hotchpotch of fencing, tape and equipment). Rows of dominant electricity pylons are also a feature in places. At distance from the urban edges, scattered farmsteads, manor houses and glasshouses (associated with nurseries or former nurseries) are recognisable features of the landscape.

Physical Influences

The undulating topography of this Landscape Character Type comprises a series of ridges and slopes which follow the pattern of valleys, containing stream corridors (such as Turnford Brook and Theobald's Brook) which dissect the area. To the west, landform slopes gradually downwards into the valley of Cuffley Brook. The landscape is underlain by geology of Chalk and London Clay, with pebbly gravels and boulder clay deposits on top.

Landscape Character Sub-Areas

B1: Thunderfield;

Situated at the southern edges of Wormley and Broxbourne Woods, this Landscape Character Area encompasses a patchwork of pasture fields which are delineated by mature medium to tall hedgerows at field boundaries. Pasture is interspersed with hay meadow and horse grazing is a key land use. Many of these fields have been carved out of the woodland (assarts) and linear belts of woodland (shaws) are also features. To the north, the woods provide a strong sense of enclosure, whilst further south, extensive open views towards housing at the northern edge of Hammond Street (situated on the ridge) can be gained. Lines of pylons, often situated on ridgetops, are dominant features within views across the landscape. The regular form of Thunderfield Grove Nature Reserve (mixed broadleaf and coniferous woodland) is another key landscape feature. Within the northern half of this Landscape Character Area, there is strong sense of tranquillity, with the sharp, right-angled course of 'Bread and Cheese Lane' rural road corridor providing the main access route. Further south, however, sense of tranquillity is disturbed by proximity to the urban edge of Hammond Street and new housing development to the west. Settlement pattern consists of scattered single residential dwellings and farmsteads.

This sub-area is pre-dominantly characterised by more recent land uses with a diverse number of HLC types visible across the sub-area. There are pockets of ancient woodland with a number of fields of 'Later Enclosure – Piecemeal by agreement'. Enclosure of this type is normally done by informal agreement and straighter boundaries are put down within an existing earlier field system. Dating boundaries of this type is difficult though they normally pre-date formal Parliamentary Enclosure Acts.

The pre-dominant HLC types for this sub-area relate to the post war period and demonstrate 'Boundary Loss – Post 1950's Boundary Loss', 'Post 1950's Enclosure', and 'Nursery with Glass House'. Those types relating to post 1950's change reflect fields boundaries lost, or created, after 1950 and relate directly to modern map based evidence.

The nurseries which are evident in the modern landscape represent a significant element of the historic development of the local landscape. The glass houses, associated with the market gardening industry of Hertfordshire, contribute to the local communities' sense of identity and place.

B2: Goff's Oak and Hammond Street

This Landscape Character Area is encapsulated by suburban housing at Hammond Street (to the north) and Goff's Oak (to the south). Separate blocks of modern housing (some of which occupy former nursery sites) also dominate landscape pattern within this area. Buildings display a variety of architectural styles and materials. The landscape within this area encompasses an assortment of pasture fields, delineated by mature hedgerows, small pockets of woodland and groups of glasshouses (some of which are active nurseries, and others are derelict). Fields are mainly grazed by horses, with fences, tape and other associated horiculture equipment dominant features in many areas. This urban fringe landscape also has a myriad of tracks and public footpaths crossing it, with associated signage. Within several views rows of pylons are also dominant features. Outside the main housing areas, several of the scattered large houses display 'ranch-style' gated entrances, often built from red brick. Towards the centre of the area, away from main road corridors and housing, there is a relatively strong sense of tranquillity. As with other Landscape Character Areas within this Type, several small east-west running stream corridors cross the landscape. Despite providing access to housing areas, the minor road corridors running through this landscape have a predominantly rural character and are often lined with mature hedgerows.

This sub-area is pre-dominantly characterised by more recent landuses. There are a diverse number of HLC types visible across the sub-area. The most historic HLC type for this sub-area is 'Pre-18th Century Irregular Enclosure'. This type represents an irregular pattern of fields that are difficult to ascribe to a specific typology. They consist of sinuous edged fields of various forms and lacking any form of cohesion. They will pre-date the 18th century and could be ascribed to several periods from the pre-historic onwards. They are normally associated with dispersed settlements and common land.

The pre-dominant HLC types for this sub-area relate to the post war period and demonstrate 'Boundary Loss – Post 1950's Boundary Loss', 'Post 1950's Enclosure', and 'Nursery with Glass House'. Those types relating to post 1950's change reflect fields boundaries lost, or created, after 1950 and relate directly to modern map based evidence.

The nurseries which are evident in the modern landscape represent a significant element of the historic development of the local landscape. The glass houses, associated with the market

gardening industry of Hertfordshire, contribute to the local communities' sense of identity and place.

B3: Theobald's Estate

Theobald's Estate Landscape Character Area encompasses a strong pattern of regular, medium to large-scale fields, interspersed with discrete medium-sized woodland blocks. To the east, land use is predominantly pasture, whilst large open fields dominate the western half of the area. This landscape is strongly influenced by Theobald's Estate, which is centred on the red brick Theobald's Park historic building (built in 1763), now a hotel and conference centre. A coherent, managed estate character is apparent in the form of walls and fences. Several of the hedgerows lining fields have a low, managed character. At distance from the main manor complex, a number of farmsteads are scattered throughout the estate. The landscape is relatively inaccessible by vehicle, other than a minor road to the south which leads to Temple House and follows the course of Ermine Street (a Roman Road). Within this part of the Character Area, a caravan park and chicken sheds associated with a nearby farm are incongruous features in comparison to the estate character to the north. However, a network of public footpaths crosses the area, including the Hertfordshire Way, Burntfarm Ride and Chain Walk National Trails/ recreational paths. There is a relatively strong sense of tranquillity throughout much of the area. To the south, however, the corridor of the M25 road corridor introduces a constant and dominant source of noise, movement and light. To the northwest, the relatively broad corridor of the valley following the course of Cuffley Brook runs north-south through the landscape. From the slopes of this valley and also throughout much of the Character Area, extensive open views across the patchwork of fields can be gained.

This sub-area demonstrates considerable elements of historic landscape change both relict and visible in the current landscape. The predominant HLC type relates to the sub-areas traditional use and development as formal parkland associated with the estate. The earliest form of this is noted in the HLC data as Medieval Deer Park for areas of the estate. This is then supplanted by a later landscape of Informal Parkland normally visible on historic maps and represents the land associated with country house, garden, kitchen garden, follies, outbuildings, woodlands, parkland etc. Informal Parkland may have lost elements of its original form through later agricultural use, for example, though they will be visible in some form in the modern landscape.

Although the sub-area contains the development of the park landscape it also demonstrates further changes that have occurred since the park has fallen out of use and developed as agricultural land. There are elements of 19th and 20th Century Woodland that become visible on mapping from the 1st Ed. O.S. mapping and are clearly visible in the modern landscape.

Theobald's Estate also shows traces of Post 1950's Boundary Loss which have resulted from adaptation to the mechanisation of modern farming.

LANDSCAPE EVALUATION

Forces for Change

Past Landscape Changes

- Loss of formal Parliamentary enclosed common land and Medieval Deer Parks;
- Loss and dereliction of glasshouses associated with the local horticultural industry.

Current Landscape Condition

The overall condition of this Landscape Character Type varies. In places, hedgerows are well managed and continuous, with mature standard trees apparent (particularly within the south of this Landscape Character Type around Theobald's Estate). In other places, however, a gappy and less well managed character is apparent. There is also evidence of poorly maintained fences at field boundaries. As a result, overall condition is considered to be moderate.

Future Landscape Changes and Opportunities

In the short-term (5 years) it is likely that there will be positive changes in the form of management of regular woodland blocks and hedgerows. Negative changes may include the neglect and eventual loss of hedgerows at field boundaries and lining road corridors. Upgrades to trunk roads and minor road corridors would also erode rural character and tranquillity through increased traffic noise. It is also likely that there will potential increased pressure for housing development on this landscape.

Longer-term (20+ years) will be dependent on prevailing incentives and policies and it is therefore challenging to be prescriptive. Potential longer-term changes within the Plateau Ridges and Slopes: Wooded Farmland Landscape Character Type area outlined below:

Agricultural Change and Land Management

If the conversion and diversification of traditional horticultural glasshouses and other agricultural buildings and attached land for domestic and leisure use is not carried out sensitively, this may lead to the introduction of modern materials, building and boundary

styles, which do not respect the traditional vernacular style. Cumulatively this may result in a loss local recognisable sense of place.

Climate Change

Fluctuating temperatures, precipitation and general weather patterns will continue to affect this landscape, leading to the possible spread of invasive species and changes in species composition of habitats. It is also possible that climate change will lead to an increase in flash flooding and erosion of the stream corridors that run through this landscape.

Development

There is potential pressure for residential development on the edges of Hoddesdon, Broxbourne, Cheshunt and Goff's Oak and Hammond Street Urban Areas. New pylons and communication masts, would create visual clutter would not necessarily respect existing landscape pattern and elements. There is also potential pressure from the widening or extension of existing road corridors, or upgrading with additional signage and lighting. If not well screened, these would potentially introduce more visual intrusion and greater noise and movement within the landscape.

Sensitivities and Capacity for Change

The Plateau Ridges and Slopes: Wooded Farmland Landscape Character Type is considered to have moderate visual sensitivity overall as a result of the variable sense of enclosure and moderate intervisibility with adjacent Landscape Character Types. In places, open views can be gained across the landscape, whilst in others, views are limited by woodland cover and rolling topography. This landscape is also considered to have moderate landscape character sensitivity with key ecological and landscape features including woodland clumps, mature hedgerows and field trees. Sense of tranquillity varies throughout the landscape, dependent on proximity to urban edges and major road corridors. As a result of the above factors, this Landscape Character Type is considered to have some capacity to accommodate change without compromising key characteristics.

GUIDELINES FOR MANAGING LANDSCAPE CHANGE

Vision

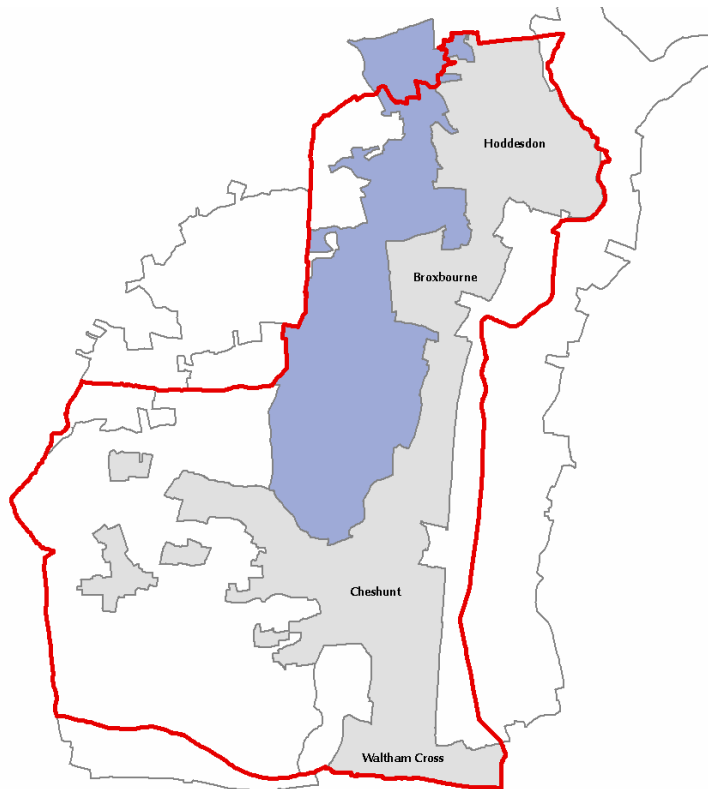
The overall strategy for this Landscape Character Type is to conserve the relatively small-scale patchwork of pasture fields interspersed with woodland blocks and mature hedgerows at field

boundaries and lining road corridors. There is also a need to enhance hedgerows where declining and gappy and screen the harsh and visually intrusive edges of modern housing development and urban edges.

Objectives/Guidelines

- **Conserve** the hedgerow network as a recognisable landscape feature and wildlife feature and **restore** and **enhance** where sparse;
- **Conserve** subtle features of the historic landscape, such as ancient tracks, lanes, field patterns and boundaries, which if not protected are vulnerable to change and loss;
- **Conserve** the existing relatively small-scale pattern of pasture fields interspersed with woodland blocks, which contribute to recognisable sense of place;
- **Seek** to ensure that potential new developments comprise a fully integrated landscape and urban design strategy, which is consistent with local landscape character;
- **Seek** to screen harsh urban edges of existing development at the edges of Hammond Street and Goff's Oak;
- **Conserve** the landscape setting of manor and single farmsteads;
- **Encourage** the planting of locally indigenous trees and shrubs, of local provenance if possible;
- **Encourage** maintenance and management of mixed aged woodland, with species-rich ground cover;
- **Promote** the retention of grassland and pasture (where possible reverting to sheep or cattle grazing rather than horse pasture) for beneficial ecological value;
- **Ensure** that any potential new development, respects the historic landscape pattern;
- **Encourage** the establishment of buffer strips along watercourses to give protection from pesticide, herbicide and fertiliser run-off and to provide a wildlife refuge;
- **Seek** to maintain open space between Hammond Street and Goff's Oak;
- **Seek** to promote the use of local materials in new buildings;
- **Seek** to reduce the impact of nursery sites on the landscape.

TYPE C: PLATEAU RIDGES AND SLOPES: WOODED PARKLAND AND FARMLAND



CHARACTER ASSESSMENT

Location

This Landscape Character Type is situated towards the north east of the Borough, immediately to the west of Hoddesdon and Wormley urban areas. To the west, the Plateau Ridges Slopes: Wooded Ridge Landscape Character Type (A) overlooks this landscape, providing a sense of enclosure. To the east, this Type borders Hoddesdon and Cheshunt Urban Areas, whilst to the south-west, it gives way to Plateau Ridges and Slopes: Wooded Farmland (Landscape Character Type B).

Key Characteristics

- A medium to small-scale patchwork of historic and former parkland, interspersed with arable farmland and pasture fields;
- Patches of woodland which include the remains of ancient oak and hornbeam and modern mixed plantations;
- Historic manor buildings and moats are key features;

- Recreational land uses such as golf courses; and former landfill sites are modern landscape features;
- The landscape is predominantly underlain by London Clay, which gives rise to seasonally waterlogged clay soils;
- Varied sense of enclosure and tranquillity, depending on proximity to patches of woodland and main A10 road corridor (which dissects the area and introduces a source of noise and movement);
- Parkland standard and veteran trees and waterbodies are landscape features.

Landscape Character



The character of this Landscape Character Type is strongly influenced by the remains of historic parklands, in combination with current recreation, pasture and parkland land uses. Parklands are interspersed with a mixture of arable and pasture fields, which are often delineated by mature hedgerows. Mature standard trees (relic parkland planting) are key landscape features which contribute to strong recognisable sense of place and orientation. Sinuous and geometric patches of mixed woodland are also features and contribute to a sense of enclosure. This mature landscape structure is overlain by a collage of modern land uses, including golf courses and restored landfill sites, which impart a human influence over the character of this landscape. There is generally a strong sense of tranquillity throughout most of this Landscape Character Type, particularly to the south, which is generally inaccessible by vehicles. To the east, however, the corridor of the main A10 road, introduces a dominant and constant source of noise and movement. Several minor roads run west-east across the landscape, crossing the A10 corridor. These roads and the landscape of this Type generally, have a predominantly rural character. To the east, this landscape is overlooked by housing within the Hoddesdon and Cheshunt Urban Areas.

Physical Influences

Several small stream corridors (including Turnford Brook, Wormleybury Brook and Spital Brook) run west-east across this Landscape Character Type, towards the corridor of the Lea Valley to the east. These contribute to the formation of a gently undulating topography. The slopes are, however, generally less steep than within adjacent Landscape Character Types. To the east, the topography becomes flatter, towards the floodplain of the River Lea. This Landscape Character Type is underlain by London Clay solid geology, with Pebbly and River Terrace gravels surface deposits on top.

Landscape Character Sub-Areas

C1: High Leigh and Carneles Green

This Landscape Character Area encompasses a combination of parkland elements and grazed pasture fields, which are generally delineated by mature hedgerows, with mature trees as landscape features. To the north of the area, mature parkland trees (coniferous pine, beech and ornamental standard trees) associated with the grounds of Hailey Hall School contribute to the overall parkland character. Parkland trees (several of which are remnants from earlier parkland) are also scattered throughout the area and are often visible on the horizon within views, contributing to recognisable sense of place. Small patches of mixed and deciduous woodland provide a sense of enclosure, occasionally limiting views across the landscape. Within the east of the area, the A10 main road corridor introduces a constant source of noise and visual intrusion. Rows of pylons are also visually detracting features. In addition to this main road, a number of smaller roads cross the landscape, running west-east. These have a predominantly rural character and are often lined with trees. The overall landscape pattern of this area comprises an irregular mixture of medium to large-scale fields. Restored landfill and mineral extraction sites are also features. Some, such as Lucern Warren, have been restored to recreational land use, whilst others are now used as grazed pasture fields. Settlement pattern comprises occasional scattered farmsteads. To the east, overall sense of tranquillity is disturbed by the active A10 road corridor, whilst further to the south; there is a stronger sense of tranquillity.

This sub-area is characterised by a number of diverse HLC types. The more modern features are those visible as A-Road and Golf Course (Leisure or Recreation). There are also a number of fields that have been lost since the 1950's.

Those HLC types of greatest historical interest are the 'Pre-18th Century Irregular Enclosure' and the 'Informal Parkland'. The Pre-18th Century Irregular Enclosure is visible as irregular patterns

of fields that are difficult to ascribe to a specific typology. They consist of sinuous edged fields of various forms and lacking any form of cohesion. They pre-date the 18th century and could be ascribed to several periods from the pre-historic onwards. They are normally associated with dispersed settlements and common land.

'Informal Parkland' is normally visible on historic maps and represent the land associated with country house, garden, kitchen garden, follies, outbuildings, woodlands, parkland etc. Informal Parkland may have lost elements of its original form through later agricultural use, for example, though it will be visible in some form in the modern landscape.

C2: Wormleybury and Cheshunt Park

Wormleybury and Cheshunt Park Landscape Character Area comprises a mixture of current and former parkland. Several pockets of ancient oak/ hornbeam woodlands are scattered across the landscape and contribute to a varied sense of enclosure. This landscape is contained by the predominantly rural road corridors of Park Lane and Church Lane, which are often lined by mature trees and hedgerows. There are very few vehicular access routes into the area, although a public footpath following the route of Candlestick Lane provides pedestrian access through Broxbourne Park golf course to the south. The golf course incorporates older parkland features such as mature parkland standard trees and has been designed to fit within the existing landscape structure. Outside the golf course, much of the parkland is predominantly used for grazing sheep, although pockets of arable farmland are also visible. Low to medium hedgerows generally delineate field boundaries. There is a relatively strong sense of tranquillity throughout, however this is disturbed to the east by traffic on the main A10 road corridor. At the eastern edge, the corridor of the New River provides a strong division between this landscape and Hoddesdon and Cheshunt Urban Areas. Settlement pattern consists of isolated farmsteads within the parkland setting. To the north, the small linear village of Wormleybury provides a historic focus, with the church of St. Laurence providing a key landscape feature within local views.

This sub-area demonstrates considerable elements of historic landscape change both relict and visible in the current landscape. The predominant HLC type relates to the sub-areas traditional use and development as formal parkland associated with the estate. The earliest form of this is noted in the HLC data as Medieval Deer Park for areas of the estate. This is then supplanted by a later landscape of Informal Parkland normally visible on historic maps and represents the land associated with country house, garden, kitchen garden, follies, outbuildings, woodlands, parkland etc. Informal Parkland may have lost elements of its original form through later agricultural use, for example, though they will be visible in some form in the modern landscape. Areas of the park illustrate elements of 'Later Enclosure – Piecemeal By

Agreement'. This enclosure will pre-date Parliamentary Enclosure Acts but demonstrates the enclosure of the parkland. It still retains much of its historic nature.

LANDSCAPE EVALUATION

Forces for Change

Past Landscape Changes

- A landscape of mixed enclosure, including medieval deer park which has been enclosed by piecemeal agreement;
- Loss of veteran trees.

Current Landscape Condition

This Landscape has a relatively strong and distinctly recognisable sense of place throughout, with mature parkland standard and veteran trees and copses providing visual landmarks and focal points. Although there is evidence of urban influences, such as pylons, steel gates, signage and some barbed wire fencing, this landscape has a generally mature landscape structure and is considered to be in generally good condition throughout.

Future Landscape Changes and Opportunities

In the short term (5 years) it is likely that there will be positive changes in the form of continued management of parkland landscapes (particularly within Cheshunt Park) and conservation of woodland copses, veteran and parkland standard trees. Negative changes may include the loss of some veteran trees due to over-maturing and introduction of modern elements such as new footpaths and buildings associated with recreational uses (such as golf courses) which do not respect local vernacular landscape and built character. It is also likely that there will potential increased pressure for housing development on this landscape.

Longer term (20+ years) will be dependent on prevailing incentives and policies and it is therefore challenging to be prescriptive. Potential longer-term changes within the Plateau ridges and slopes: wooded parkland and farmland Landscape Character Type are outlined below:

Agricultural Change and Land Management

There is potential for the future loss of field boundaries and parkland trees as a result of agricultural intensification. In addition, loss of pasture and grassland may occur as a result of agricultural improvement. There are also likely to be changes in woodland cover as a result of changes in future changes in management practices.

Climate Change

Fluctuating temperatures, precipitation and general weather patterns will continue to affect this landscape, leading to the possible spread of invasive species and changes in species composition of habitats. It is also possible that climate change will lead to an increase in flash flooding and erosion of the stream corridors that run through this landscape.

Development

There is potential for increased use of rural roads associated with visitors and local recreational users, which would put pressure on the predominantly rural road network. Potential pressure from new housing at the edges of Cheshunt, Broxbourne, Hoddesdon and Wormley Urban Areas may not necessarily reflect existing landscape pattern and elements if not designed sensitively. There is also potential pressure from the widening or extension of existing road corridors, or upgrading with additional signage and lighting. If not well screened, these would potentially introduce more visual intrusion and greater noise and movement within the landscape.

Sensitivities and Capacity for Change

The Plateau Ridges and Slopes: Wooded Parkland and Farmland Landscape Character Type is considered to have moderate visual sensitivity overall as a result of the variable sense of enclosure and moderate intervisibility with adjacent Landscape Character Types. In places, open views can be gained across the landscape, whilst in others, views are limited by woodland cover and rolling topography. This landscape is considered to have high landscape character sensitivity as a result of the network of mature parkland trees, historic parkland landscapes, predominantly rural character and relatively strong sense of tranquillity throughout. As a result of the above factors, this Landscape Character Type is considered to have limited capacity to accommodate change without compromising key characteristics.

GUIDELINES FOR MANAGING LANDSCAPE CHANGE

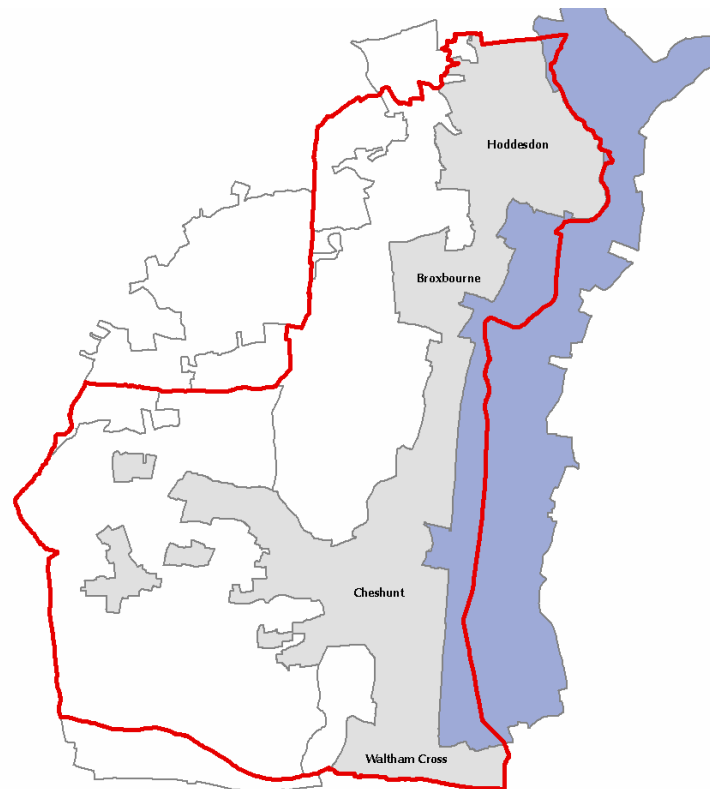
Vision

The overall strategy for this Landscape Character Type is to conserve the small-scale patchwork of historic and former parkland, patches of mature woodland (including remains of ancient oak and hornbeam) and historic manor buildings and moats as key historic landscape features. In addition, there are opportunities to restore and enhance hedges and fences where gappy and dilapidated.

Objectives/Guidelines

- **Conserve** the generally undeveloped, rural character of the landscape and related strong sense of tranquillity;
- **Conserve** parkland standard and veteran trees from potentially damaging activities such as ploughing, mineral extraction, spraying, air pollution, over-grazing and pasture improvement, as key landscape and historic landscape features;
- **Encourage** access to parkland (where appropriate) through use of coherent signage and use of local materials for footpaths and access tracks;
- **Encourage** the reversion of arable fields to pasture where possible. Sheep and cattle grazing generally has more ecological benefits than horse grazing, where economically viable;
- **Conserve** existing woodland as key landscape features which contribute to recognisable sense of place and enclosure and encourage differing management techniques, such as coppicing and maintenance of wood pasture;
- **Maintain** mature hedgerows and enhance where gappy;
- **Promote** the continued management of Cheshunt Park as an informal open space within its historic context and encourage low intervention management of grasslands to increase biodiversity value;
- **Seek** opportunities for the creation of woodland and wood pasture where this reflects historic landscape pattern;
- **Conserve** and **enhance** landscape structure, including mature parkland trees, woodland and intact hedgerows;
- **Conserve** the landscape setting of historic buildings within this Landscape Character Type;
- **Seek** to ensure that new development does not reduce the vertical significance of important historical and architectural features within the landscape, such as church towers.

TYPE D: RIVER VALLEY FLOODPLAIN: FLOODED GRAVEL PITS AND MARSHES



CHARACTER ASSESSMENT

Location

This Landscape Character Type occurs along the eastern boundary of the Borough, within the valley of the River Lea. Much of the western boundary of this landscape is contained by the main railway line which runs north-south along the eastern edge of Hoddesdon and Cheshunt Urban Areas; however, pockets of landscape do cross the railway corridor. To the east, this Landscape Character Type extends outside the Borough boundary into Harlow District.

Key Characteristics

- This flat, low lying landscape encompasses the floodplain and courses of the River Lea and River Lee navigation, and extensive water bodies, which are the result of former mineral extraction;
- A mosaic of wetland vegetation including wetland scrub, marshes and woodland, which creates visual boundaries;
- Associated with this, is a wide variety of fauna, including swans, geese and ducks, contributing to the value of this landscape for nature conservation;

- The corridor the raised Lee navigation (canal), with its associated locks, bridges, towpaths and mature vegetation lining the river corridor is a key feature;
- A relatively strong sense of tranquillity throughout, despite proximity to several urban edges and large industrial developments;
- Views are generally confined to the river corridor, although the almost continuous urban edge of Cheshunt and Hoddesdon, and main railway line provides a strong physical and visual western edge to this corridor of landscape;
- Rows of pylons and large industrial warehouses are also dominant features.

Landscape Character



This Landscape Character Type encompasses the flat, low-lying corridor of the gently meandering River Lea. The canalised course of the River Lee navigation is also a landscape feature which runs alongside the river. This corridor has an engineered character with associated locks, bridges and towpaths. Within the river corridor, numerous large waterbodies dominate the landscape pattern. These are remnants of previous extractive industries (gravel pits) and are often surrounded by mature trees and other wetland vegetation, marshes, woodland and scrub. Associated with these large water bodies, is a diverse combination of fauna including swans, geese, ducks and other wetland birds. The water also provides a popular recreational facility for walking, sailing and other water-related sports. Rows of pylons and large industrial warehouses are dominant features, which contribute to an industrial character, particularly towards the northern end of the river corridor. The Urban Areas of Hoddesdon, Cheshunt and Wormley overlook the western edge of the river corridor and, in combination with the main railway line, provide a strong physical boundary. Views are generally confined to the river corridor, however within the corridor, extensive open views across the numerous lakes and waterbodies, framed by mature vegetation contribute to recognisable sense of place. Despite proximity to Urban Areas and noise associated with the railway corridor, there is relatively strong sense of tranquillity throughout this Landscape Character Type.

Physical Influences

The corridor of the Lea Valley is predominantly flat and low lying throughout. The river corridor is underlain by solid geology of River Bricearth, overlain with river alluvium deposits and gravels. Many of the River Bricearth deposits have been completely worked out, as a result of the extractive industries which were once a dominant presence within the river corridor. The broad corridor is now dominated by extensive waterbodies, which are the remnant landscape features of mineral extractive industries.

Landscape Character Sub-Areas

D1: Mid Lea Valley

The Mid Lea Valley Landscape Character Area encompasses a combination of dry land (disused and restored mineral sites which are predominantly rough grassland and scrub), and water (within flooded old sand and gravel pits). The course of the River Lea to the south of Dobb's weir follows a natural, gently meandering course (running along its original course). In contrast, the strongly engineered character of the River Lea navigation forms the eastern boundary to this Landscape Character Area. There is generally little access to the river corridor within this area. Human influence on the river corridor is strong, with housing within Hoddesdon Urban Area and the railway corridor often visible within views across the area. The railway corridor also introduces a regular source of noise and visual intrusion and provides a strong western boundary to the character area. Views across the area are often dominated by the industrial horizons of warehouses within local industrial estates. Rye Meads power station is also a dominant landmark within views northwards, which contributes to recognisable sense of place. There is generally less vegetation within this section of the valley corridor than to the south; however, patches of willow, hawthorn and elder contribute to landscape structure.

Within the HLC datasets this area is noteworthy for its concentration of Enclosed Meadow. These are fields that border rivers, in this case the Lea, and form part of the flood plain of the river. Often recorded as areas of rough pasture and would appear to be similar in period as pre-18th century enclosure.

There are also areas of mineral extraction, which are also visible in the relict landscape layers of the HLC dataset. Elements of mineral extraction continue in the modern landscape.

D2: Turnford and Thistly Marshes

This Landscape Character Area encompasses a patchwork of lakes and waterbodies that fall within the corridor of the River Lea. These areas of open water are divided by pockets of marshland and scrub (Turnford and Thistly Marshes). Urban development (predominantly housing) within Cheshunt Urban Area and the main railway corridor provide a strong western edge to the area. The engineered form of the River Lee navigation provides the eastern edge, however this landscape continues to the east of the Borough boundary (within Harlow District). Most of the waterbodies are surrounded by dense, mature wetland trees and vegetation, which limits views outside the river corridor. Open views, however, can be gained across the water, contributing to recognisable local sense of place and orientation. There is generally a strong sense of tranquillity throughout most of the area, however, this is more disturbed to the south in proximity to Lee Road industrial estate and the M25 road corridor. The area provides a popular resource for walking and water-based recreation and is accessible from Cheshunt Urban Area via a series of public footpaths which cross the water. In addition to the mature landscape structure of trees and marshes, this Landscape Character Area provides a key habitat for wetland birds.

Similar in historic landscape development to Mid Lea Valley this sub-area is characterised by two predominant HLC types both of which associated with marginal land in a river valley. It is characterised by enclosed meadow which is likely to pre-date the 18th Century and 'Restored Land' which is likely to have been restored from earlier mineral extraction.

LANDSCAPE EVALUATION

Forces for Change

Past Landscape Changes

- Large-scale mineral extraction for sand and gravel along the river corridor;
- Associated transformation of the river corridor, resulting in flooded lagoons.

Current Landscape Condition

Woodland and vegetation along the river corridor is generally mature and well managed, although there are patches of neglected marshland and rough grassland. Where present, hedgerows are generally intact and the river channel and water bodies appear well managed. Overall, landscape condition is good, but declining in places.

Future Landscape Changes and Opportunities

In the short term (5 years) it is likely that there will be positive changes in the form of continued management of vegetation and habitats associated with the River Lea corridor. Negative changes may include further mineral extraction associated with the river corridor, resulting in the loss of key habitats. There is also likely to be pressure from increased visitor and local access to the river corridor for walking and water-related sports and activities, which could lead to pressure on the local minor road network and footpaths, resulting in a loss of local distinctiveness.

Longer-term (20+ years) will be dependent on prevailing incentives and policies and is it therefore challenging to be prescriptive. Potential longer-term changes within the River Valley Floodplain: Flooded Gravel Pits and Marshes include:

Agricultural Change and Land Management

Trees and wetland habitats along the river corridor will mature over the long-term and reinforce the key landscape characteristics of this Landscape Character Type.

Climate Change

Fluctuating temperatures, precipitation and general weather pattern will continue to affect this landscape, leading to the possible spread of invasive species and changes in species composition of habitats. It is also possible that this may lead to flooding of the river corridor and associated floodplain in places during severe storm events.

Development

There is potential pressure from visitor-related developments along the Lee Valley, which may affect the quality of the landscape or change existing landscape pattern and character. There is also potential pressure from a spread of new housing development.

Sensitivities and Capacity for Change

The River Valley Floodplain: Flooded Gravel Pits and Marshes Landscape Character Type is considered to have moderate visual sensitivity overall. In places, open views across water bodies and along the river corridor can be gained, however, in others, vegetation lining the river corridor limits views. The River channel is not highly visible from adjacent Landscape Character Types; however vegetation lining the river is a key feature within several views to

this landscape. This landscape is considered to have moderate landscape character sensitivity overall. Vegetation associated with the river corridor is generally mature and there are a diverse range of habitats present, contributing to ecological sensitivity. As a result of the above factors, this Landscape Character type is considered to have some capacity to accommodate change without compromising key characteristics.

GUIDELINES FOR MANAGING LANDSCAPE CHANGE

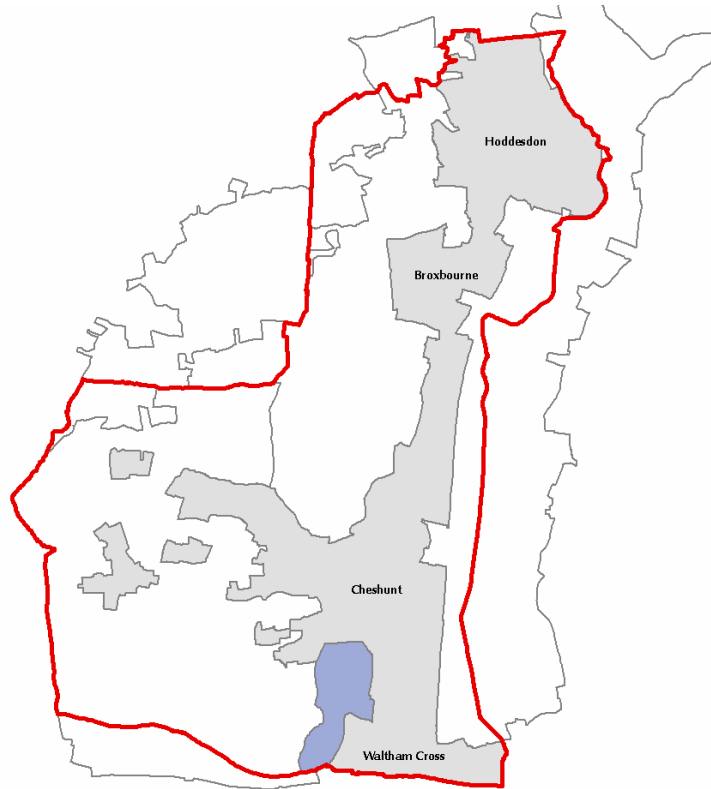
Vision

The overall strategy for this Landscape Character Type is to conserve mature vegetation associated with the river corridor and mosaic of wetland vegetation including wetland scrub, marshes and associated fauna. There are also opportunities to screen urban elements along the river corridors, such as harsh urban edges and views to large industrial buildings and also restore disused mineral extraction pits.

Objectives/Guidelines

- **Seek** strategies to minimise the risk of eutrophication of rivers and waterways as a result of run-off from adjacent agricultural farmland, e.g. catchment sensitive farming techniques;
- **Seek to** promote the use of local materials in new buildings and visitor related facilities;
- **Conserve** localised open views along the river corridor;
- **Conserve** the mosaic of wetland vegetation including wetland scrub, marshes, woodland as landscape features (and associated fauna);
- **Encourage** the creation of a further mosaic of habitats, such as the creation of marginal vegetation;
- **Maintain** public access to the river corridor and promote use for recreational activities through integrated visitor management;
- **Seek** opportunities for the restoration of disused or redundant mineral sites;
- **Enhance** the management, presentation, interpretation and accessibility of the landscape for its historic and landscape value;
- **Ensure** the sensitive location of any potential new industrial or tall vertical developments (such as pylons and wind turbines) avoiding open locations.

TYPE E: RIVER VALLEY FLOODPLAIN: FARMLAND



CHARACTER ASSESSMENT

Location

This Landscape Character Type is situated towards the south of the Borough, to the east of the Plateau Ridges and Slopes: Wooded Farmland Landscape Character Type (B). Cheshunt Urban Area provides the northern and eastern boundary to this landscape, whilst the M25 motorway corridor delineates the southern boundary.

Key Characteristics

- Strong sense of openness throughout this landscape;
- Open and long distance views towards Central London (including views to Canary Wharf) to the south and more localised views towards the urban edges of Cheshunt and Waltham Cross;
- Predominantly flat landscape, which sits on the western edge of the floodplain of the River Lea and rises gently towards Plateau Ridges and Slopes: Wooded Farmland (Landscape Character Type B) to the west;

- Overall sense of tranquillity is disturbed by proximity to the A10 road corridor, which is a source of noise and visual intrusion;
- Land cover predominantly consists of a series of large-scale arable fields, which are delineated by mature low to medium hedgerows;
- The hotel and printworks to the east of the A10 main road corridor are prominent, both within views across the landscape and within views from other Landscape Character Types;
- The course of the New River corridor forms the western boundary to this Landscape Character Type.

Landscape Character



This Landscape Character Type encompasses a series of large-scale arable fields which are delineated by low hedges. Mature woodland at the eastern edge of Theobald's Estate provides a sense of enclosure to the west, whilst the urban edges of Cheshunt and Waltham Cross provide a strong edge to the east of the area. This landscape is predominantly flat and is situated at the western edge of the floodplain of the River Lea. In combination with the general absence of woodland cover, there is a sense of openness throughout. These views provide a sense of orientation and contribute to localised recognisable sense of place. Overall sense of tranquillity is disturbed throughout much of the area as a result of proximity to urban edges and the corridors of the A10 and M25 road corridors. Modern industrial and hotel developments to the east of the A10 road corridor are dominant within many localised views across this landscape. At the eastern edge of this Landscape Character Type, the gently meandering course of the New River is a recognisable landscape feature.

Physical Influences

The geology of this Landscape Character Type consists of Solid geology of London Clay, overlain by a combination of Pebble Gravels and River Terrace Gravels. The topography is

predominantly throughout and slopes gradually downwards to the east (towards the broad valley of the River Lea) and upwards to the west (towards the Plateau Ridges and Slopes: Wooded Farmland) Landscape Character Type.

Landscape Character Sub-Areas

E1: Bury Green

There is only one occurrence of this Landscape Character Type within the Borough, so this Landscape Character Area exhibits the key characteristics as listed above.

Although a small area this sub-area illustrates a number of relict landscape types within the HLC datasets. Within the modern landscape it is recorded as 'Informal Parkland' and 'Pre-18th Century Unenclosed Common Arable'. Pre-18th Century Unenclosed Common Arable is probably medieval in origin and is normally visible on historical maps and tend to be farmed continually up until the 19th Century. There are also traces of Informal Parkland associated with Theobald's Estate and then 'Later Enclosure – Piecemeal by Agreement' characterised by field boundaries subdividing earlier irregular filed systems.

LANDSCAPE EVALUATION

Forces for Change

Past Landscape Changes

- A loss of Medieval Deer Parks;
- Change to field pattern with amalgamation of irregular fields to form larger units.

Current Landscape Condition

Overall, this landscape condition is considered to be moderate to poor. In places, hedgerows are mature and intact; however there is also evidence of decline.

Future Landscape Changes and Opportunities

In the short-term (5 years) it is likely that there will be positive changes in the form of management of hedgerows at field boundaries. Negative changes may include the neglect and eventual loss of hedgerows at field boundaries and lining road corridors. Upgrades to trunk roads and minor road corridors would also erode rural character and tranquillity through

increased traffic noise. It is also likely that there will potential increased pressure for housing and potential employment development on this landscape.

Longer-term (20+ years) will be dependent on prevailing incentives and policies and it is therefore challenging to be prescriptive. Potential longer-term changes within the River Valley Floodplain: Farmland Landscape Character Type are outlined below:

Agricultural Change and Land Management

If the conversion and diversification of traditional agricultural buildings and attached land for domestic and leisure use is not carried out sensitively, this may lead to the introduction of modern materials, building and boundary styles, which do not respect the traditional vernacular style. Cumulatively this may result in a loss local recognisable sense of place.

Climate Change

Fluctuating temperatures, precipitation and general weather patterns will continue to affect this landscape, leading to the possible spread of invasive species and changes in species composition of habitats. It is also possible that climate change will lead to an increase in flash flooding.

Development

There is potential pressure for residential development on the edges of Cheshunt Urban Area. New pylons and communication masts, would create visual clutter would not necessarily respect existing landscape pattern and elements. There is also potential pressure from the widening or extension of existing A10 and M25 road corridors, or upgrading with additional signage and lighting. If not well screened, these would potentially introduce more visual intrusion and greater noise and movement within the landscape.

Sensitivities and Capacity for Change

Overall, this Landscape Character Type is considered to have moderate visual sensitivity. Although open views can often be gained across this landscape, intervisibility with surrounding Landscape Character Types is generally low. Overall landscape character sensitivity is considered to be low. There is little woodland cover, and although several of the hedgerows are intact, there is evidence of decline in places. As a result of the above factors, this Landscape Character Type is considered to have some capacity to accommodate change.

GUIDELINES FOR MANAGING LANDSCAPE CHANGE

Vision

The overall strategy for this Landscape Character Type is to enhance hedgerows where declining and sparse and screen the harsh and visually intrusive edges of modern housing development and urban edges.

Objectives/Guidelines

- **Conserve** the hedgerow network as a recognisable landscape feature and wildlife feature; and restore and enhance where sparse;
- **Conserve** subtle features of the historic landscape, such as ancient tracks, lanes, field patterns and boundaries, which if not protected are vulnerable to change and loss;
- **Seek** to ensure that potential new developments comprise a fully integrated landscape and urban design strategy, which is consistent with local landscape character;
- **Seek** to screen harsh urban edges of existing development;
- **Conserve** the landscape setting of manor and single farmsteads;
- **Encourage** the planting of locally indigenous trees and shrubs, of local provenance if possible;
- **Ensure** that any potential new development, respects the historic landscape pattern;
- **Seek** opportunities to screen large industrial developments.

4.0 MONITORING LANDSCAPE CHANGE

4.1 Introduction

4.1.1 This final section identifies indicators for monitoring positive or negative changes to the character of the Borough's landscape. Good practice for monitoring landscape change⁹ suggests that the key indicators selected for the purposes of monitoring change should be based on landscape elements that have particular influence in defining the character of individual areas. The selection of indicators should be based on the following main criteria:

- They must be central to the distinctive character of individual landscape character areas;
- They should be liable to experience change either in magnitude/extent or in condition/quality;
- They should be capable of being measured against the defined guidelines for individual landscape character units/types/areas;
- They need to be defined precisely in terms of desired trends;
- The desired direction of change for the chosen indicator must be known;
- Where possible, local stakeholders should be involved in the choice of indicators, particularly where their participation is needed to collect information or assist in monitoring changes.

4.2 The National Approach to Monitoring Landscape Change

4.2.1 At the national level, the Countryside Quality Counts (CQC) study¹⁰ has developed indicators for monitoring changes in the character of the English landscape within the framework of Joint Character Areas (JCAs). The CQC approach is based on evaluating the magnitude of change (assessed as 'stable' or 'changing') and its direction of change (assessed as 'consistent' or 'inconsistent' with the vision for the JCA). The CQC criteria used for measuring change are:

- Trees and Woodland;
- Boundary features;
- Agricultural land cover;
- Settlement and development patterns;
- Semi-natural habitats;
- Historic features;

⁹ Landscape Character Assessment – Guidance for England and Scotland: Topic Paper 2 – Links to Other Sustainability Tools (Countryside Agency/Scottish Natural heritage, 2002).

¹⁰ CQC is sponsored by Natural England, in partnership with Defra and English Heritage.

- River and coastal features.

4.2.2 The CQC study has assessed landscape change for two periods: 1990-1998 and 1999-2003, the latter of which was published in 2007. The next assessment will report on change in the period 2004 and 2009. Trends are derived from the changes that have occurred between the two study periods. The assessment also provides a vision for the future for each JCA, which reflects the trend in the nature and direction of change which has occurred, or is occurring, and the desired direction and nature of change that is desired in the future.

4.2.3 The current status of each JCA in England has been allocated to one of four categories, based upon quantitative and qualitative analysis of spatial and tabular data related to the above themes, the significance of which was judged and validated by local stakeholders. These categories are used to express the current trend in patterns of change for each JCA. The categories are:

- ‘Maintained: if the character of an area is already strong and largely intact, and the changes observed for the ‘key’ themes served to sustain it, or simply because the lack of change meant that the important qualities are likely to be retained in the long term;
- Enhancing: if the changes in the ‘key’ themes tended to restore the overall character of an area, or to strengthen it;
- Neglected: if the character of an area has been weakened or degraded by past change, and the changes observed in the ‘key’ themes have not had the effect of restoring the desired qualities that made the area distinct. JCAs have also been described as ‘neglected’ if significant opportunities to restore or strengthen character remain;
- Diverging: if the change in the ‘key’ themes appeared to be transforming the character of the area so that either its distinctive qualities are being lost, or significant new patterns are emerging’.

4.2.4 The CQC summary report for the Northern Thames Basin Joint Character Area (JCA 111), which encompasses the whole of the Borough of Broxbourne except for two very small areas in the north, identifies changes that have occurred between 1999 and 2003. It identifies that, whereas woodland has been maintained or strengthened locally, the JCA is subject to the continued erosion of the character of the farmed landscape, together with the pressures from development, and suggests that the overall the character of the area continues to transform. The overall assessment records change that is **diverging** and **inconsistent** with the landscape character of the JCA and the vision for its future. Full details of the CQC assessment including information against each category can be found at www.cqc.org.uk/jca/. It should be noted that this information has been arrived at from study across the whole of the JCA 111. Whilst it is likely that the CQC assessment will reflect some or many of the changes evident in the

Borough only more detailed assessment at the local level can provide the information necessary to achieve an understanding of the effect and significance of changes that are occurring in response to local circumstances.

4.2.5 Monitoring rates of landscape change enables judgements to be made about:

- The justification for existing and future policy;
- The practical effectiveness of existing policy;
- The effectiveness of management and management guidelines;
- The need to change or modify policy;
- Where to direct effort in terms of things such as management resources, funding and guidance to remedy the effect of inappropriate change.

4.2.6 The information obtained from monitoring patterns of landscape change can be used for a variety of purposes, including decision making in development control, land management and the identification of priorities and targets for funding and enhancement. Information about local or regional landscapes also provides a vital component of national and international evidence in respect of changes to environmental conditions. There is therefore increasing emphasis on the development of indicators for monitoring trends that record positive and negative change.

4.2.7 The CQC assessment (1999-2003) records the following results for JCA111 under the CQC assessment themes as follows. It should be noted that these results reflect the assessment of the whole JCA, and can only be used indicatively for the Broxbourne Borough. More specific patterns of positive and negative landscape changes identified through the 1:25,000 scale assessment are also presented. These judgements are based on desktop survey and field assessment, not on measured analysis.

Trees and Woodlands – Maintained

National Assessment

4.2.8 In 2003 the proportion of established, eligible National Inventory of Woodland and Trees woodland stock was about 27%. About 50% of the woodland cover is on an ancient woodland site. The proportion of these sites covered by a Woodland Grant Scheme has remained around 40% since 1999. There have been a significant number of Woodland Grant Scheme agreements for coppice management. Evidence suggests character has at least been maintained.

Local Assessment

- Woodland is generally robust and well managed;
- Original parkland trees are generally mature, and in places approaching over maturity;
- There is a need for planned new successional planting;
- Evidence of new tree planting in parkland, using species and planting design which does not reflect original planned layout and design.

Boundary Features – Neglected

National Assessment

4.2.9 Between 1999-2003 Countryside Stewardship capital agreements for linear features included fencing (40km), hedge management (48km), hedge planting and restoration (74km) and restored boundary protection (18km). The estimated boundary length for the JCA is about 8929km. Total length of agreements between 1999-2003 is equivalent to about 2% of this total. The resource has probably been neglected.

Local Assessment

- Hedgerows are generally well maintained in most places, however there is evidence of boundary loss where hedgerows are sparse and gappy in some places;
- Evidence of fragmentation of rural land ownership which has led to the introduction of a variety of different boundary treatments such as wooden and post and wire fences.

Agriculture Land Use – Neglected

National Assessment

4.2.10 Rate of grassland loss has slowed, and mix of farm holding types has stabilised, although there has been an overall loss of mixed and general cropping and horticulture since 1998. Countryside Stewardship uptake for annual area features follows national average. The most extensive annual Countryside Stewardship agreements in 2003 were for lowland hay meadows (562ha) and lowland pastures on neutral/acid soils (486ha). Other Countryside Stewardship annual agreements included those for regeneration of grassland/semi-natural vegetation (461ha) and re-creating grassland on cultivated land (agreement renewals only) (218ha). Given size of the JCA the extent of agreements is limited. Evidence suggests character remains weakened.

Local Assessment

- There is past evidence of conversion of parkland to farmland and golf courses;
- Generally, agricultural land is well maintained.

Settlement and Development Patterns – Diverging

National Assessment

- 4.2.11 High rate of change to urban and share of build outside urban and fringe. About 40% of the JCA is within a greenbelt. There is evidence of extension of urban and fringe into peri-urban around some of the larger towns [such as Colchester, Tiptree, Wickford, Greys, Hatfield, St Albans and Rickmansworth]. In addition there is evidence of more scattered development on greenfield sites throughout, suggesting continued erosion of character, [especially between Benfleet and Billericay].

Local Assessment

- Evidence of new large-scale development (warehouses) at edges of Urban Areas;
- Evidence of conversion of former glasshouse and nursery sites to new housing development;
- Evidence of the introduction of new, essentially urban form of buildings into areas with predominantly rural character;
- Expansion of road networks- including dual carriageways and incremental improvements to minor road corridors.

Semi-natural Habitats – Neglected

National Assessment

- 4.2.12 There are limited Countryside Stewardship agreements for regeneration of heath. Countryside Stewardship agreements of management of other semi-natural habitats are limited - suggests resource remains weakened.

Local Assessment

- Evidence of fragmented land ownership;
- Generally low proportion of land managed under Countryside Stewardship arrangements (approximately 100ha within the Borough – to the south of Baas Manor Farm, East of Wormley and south of Colesgrove Manor).

Historic Features – Neglected

National Assessment

4.2.13 There is limited uptake of Countryside Stewardship agreements for management of historic landscapes. In 1918 about 5% of the JCA was historic parkland. In terms of the share of the resource the JCA was ranked 5. By 1995 it is estimated that 52% had been lost. About 42% of the remaining parkland is covered by a Historic Parkland Grant, and about 6% is included within an agri-environmental scheme. About 73% of historic farm buildings remain unconverted. About 93% are intact structurally. These data suggest that important aspects of the historic resource remain neglected.

Local Assessment

- Large areas of historic parkland evident within the Borough;
- Evidence of loss of historic boundaries.

River and Coastal Features – Enhancing

National Assessment

4.2.14 The biological river water quality in 1995 was predominantly average and it has been enhanced. The chemical water quality in 1995 was predominantly good and it has been maintained. ESA agreements in 2003 included grazing marsh supplement (266ha). Evidence suggests that the character is being strengthened.

Local Assessment

- Enhancements to the River Lea Country Park, in line with the Lea Valley Park Management Plan.

4.3 Indicators for Monitoring Change in Broxbourne

4.3.1 The information provided by this Landscape Character Assessment provides a basis for monitoring change in the Borough of Broxbourne. The following indicators have been selected to reflect the key factors that are indicative of landscape change in the Borough. These reflect the landscape features that play a significant role in determining the character of each of the Landscape Character Types and/or Areas identified in the assessment and where information

can be reasonably easily collected to provide a consistent and objective baseline against which changes can be measured:

- Total area of undeveloped land outside of urban areas.
- The total area of Ancient Woodland and the proportion of it in active forestry management (for example, under a Forestry Commission English Woodland Grant Scheme).
- Total area of non Ancient Woodland and the proportion that is in active forestry management under an English Woodland Grant Scheme or other documented scheme of management.
- Total area and the condition of registered and non-registered Historic Parklands.
- Total length of rural hedgerows and hedgerows including indigenous species of hedgerow trees (e.g. oak, lime and ash).
- Total hedgerow loss authorised through administration of the Hedgerow Regulations.
- The length of streams and stream corridors in naturalised condition (natural banks and with bankside vegetation).
- Number and location by type and /or area of planning approvals for development in the Green Belt associated with 'horsiculture' – maneges, stables, shelters, and other improvements for which planning consent is required, and other development that is approved as an exception to Green Belt policy.
- Number of fields subdivided using timber or other fencing.
- Number and location of new telecommunications masts and non domestic wind turbines.
- Extent of Green Belt given over to use for formal recreation.

4.3.2 These indicators will provide a basis for monitoring that is consistent with the Countryside Quality Counts methodology and enable the Borough Council to monitor change at the local scale. Using these indicators, the Borough Council and its key stakeholders will be able to determine how effective its policies and strategies are at managing change, and whether policies might be improved or modified to respond to the positive or negative trends that emerge as a result of the periodic monitoring process.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 General

5.1.1 This section sets out the main conclusions of the Study, and provides recommendations to the Broxbourne Borough Council for consideration and action as appropriate.

5.2 Conclusions

Diversity of the Borough's Landscapes

5.2.1 This assessment confirms the diversity of Broxbourne's landscapes, identifying a variety of Wooded Ridge, Wooded Farmland, Wooded Parkland and Farmland, Flooded Gravel Pits and Marshes and River Valley Floodplain Farmland landscapes. This assessment also confirms that the historical settlement, development and use of the Broxbourne landscape reflect this diversity. Within the context of this diversity of the Landscape Character Types, this assessment has identified nine Landscape Character Areas. These areas reflect the distinct and recognisable patterns of different natural and cultural elements that combine to create a particular experience or 'sense of place' – quite unlike anywhere else.

5.2.2 Overall, the diversity and local distinctiveness of the Borough's landscapes are considered to be a major environmental asset, making a significant contribution to the quality of life Broxbourne's communities. Protecting landscape features and patterns that contribute to landscape diversity, including enhancing their quality, character and function where necessary, should be a key aim for planning and land management policy in Broxbourne.

Condition and Sensitivities of the Borough's Landscapes

5.2.3 The profiles set out in Section 3.3 identify, in broad terms, past landscape changes, the current landscape condition, potential future landscape changes and opportunities and sensitivities of the Borough's landscapes. This information highlights the main issues affecting landscape character that need to be considered in decisions involving the development and use of land within a particular Landscape Character Type or Area. In summary, the key issues in relation to development planning can be summarised as follows:

- **Built Development:** expansion of suburban character and pattern, use of inappropriate building methods/materials/details that ignore local vernacular; expansion of industrial,

leisure and retail developments on settlement edges; pressure on the open character of countryside gaps.

- **Infrastructure:** Loss of tranquillity from road and development growth/widespread lighting; increase in power lines, telecommunications masts and associated buildings.
- **Small-scale and incremental change:** gentrifications, suburbanisation and extension of settlements, dwellings and gardens; loss of agricultural land for gardens, planting of exotic species, loss of parkland trees, urban style fencing and lighting; loss of locally distinctive features such as walls, fences, signs and adverts, etc; horticulture, increased car use/erosion of narrow lanes/adverse impact of landscape and settlement character/obtrusive road signage and traffic calming measures.
- **Settlements in their landscape setting:** relationship between settlement core and landscape severed by settlement expansion; new development unsympathetic to original settlement pattern and relationship with landscape: poor relationships between settlement and landscape/key view/landmarks/other landscape features.
- **Recreation and tourism:** access infrastructure, horse-related developments, golf courses.
- **Climate change:** reducing the causes of climate changes through energy conservation/efficiency and increased use of renewable energy sources; adapting to the consequences of climate change in relation to flood risk and sea level rise.

The Landscape Planning Policy Framework

5.2.4 The focus of the current national and emerging regional planning policy framework in relation to the protection and enhancement of landscape can be summarised as:

- Sustainable development is the overarching objective and priority.
- Landscape character, settlement character and local distinctiveness should be taken into consideration in development.
- The countryside is to be protected for its own sake but development that supports the rural economy should be considered on its own merits.
- Core policies need to be clear, concise and criteria-based.
- A strong evidence base is required to support policies and any Supplementary Planning Documents.
- Local landscape designations and green wedges/strategic gaps, where these are to be retained, need justification based on a formal and robust assessment;
- Design policy is an important means for achieving landscape character objectives.

5.2.5 This assessment provides the evidence base required to support the Council's Local Development Framework in general, and to underpin the development of criteria-based policies in particular.

Synergy with Landscape Character Assessment Hierarchy

5.2.6 As demonstrated in Section 3.3, this 1:25,000 assessment of landscape character units has been undertaken to nest within the framework provided by the 1:250,000 'national-scale' Character of England Map and the 1:50,000 'County-scale' assessment.

Recommended Applications of the Landscape Character Assessment

5.2.7 It is recommended that this Landscape Character Assessment be made accessible for use by all those with an interest in landscape planning, design and management within the Borough.

5.2.8 In line with the aims and objectives set out within Section 1.2, the principal application of this Landscape Character Assessment is in relation to the Council's development planning functions. Practical uses of the Landscape Character Assessments in this regard include:

- Raising the general awareness in the planning process of the importance of landscape character in contributing to quality of life within the District by recognising:
 - Both the differences and similarities between places;
 - What gives different places their special local identity and distinctiveness;
 - The need to protect and enhance special and valued characteristics;
 - That development needs to be sympathetic to these special qualities;
 - The need to actively improve the quality of places through good design.
- Informing the formulation of criteria-based landscape character policies in the Local Development Framework.
- Providing the spatial framework for considering the landscape character implications of options for different scales and patterns of strategic development in the Local Development Framework.
- Informing development control decisions about proposals for built development and other forms of land use change.
- Informing the Strategic Environmental Assessment and evidence base of the Local Development Framework of the impact of new development on landscape character.
- Providing a framework for more detailed studies to enhance the evidence base, and for the targeting of landscape enhancements alongside development schemes.
- Informing design guidance to promote higher quality landscape design.
- Providing a baseline for monitoring the impact of new development on landscape character and quality.

5.2.9 Planners, developers, architects, urban designers, landscape architects and other professionals may also find the characterisation information and guidelines useful as a reference source for informing the site masterplanning and building design process for specific development schemes. Other applications of the Landscape Character Assessment include its use by those involved in the targeting and delivery of environmental land management schemes – other stakeholders may also find the Study useful as a basis for guiding their responses to consultations by the planning authorities on plans, strategies and planning applications that may have significant implications for their local landscapes.

5.3 Recommendations for Further Work

Enhancing the Character Evidence Base

5.3.1 This Landscape Character Assessment provides information to help understand the distinctive character of landscapes within the Borough, and it is expected that the evidence base will be treated as a material consideration in planning decisions. A variety of other character-based studies may be needed to more fully inform the LDF policies and any SPD.

5.3.2 Options for enhancing the evidence base in relation to the character of the landscape within the District include:

- Development potential assessments: preparation of focussed landscape capacity studies for specific sites within the Borough;
- Settlement character studies: including for examples Townscape/Urban Character Assessment (particularly for the main settlements), Urban Archaeological Surveys; Settlement-edge landscape setting studies, Town and Village Design Statements and Parish Plans.
- Landscape Design Guidance: To promote sensitive and high quality landscape design, by providing guidance on how the settings of new development can be carried out in accordance with the design policies of the Local Development Framework in order to help retain local distinctiveness.
- Green Infrastructure Network Planning.
- Urban Green Space Strategies: Detailed strategies for delivering high quality parks and other public spaces, based on PPG17¹¹ open space audits and need assessments, prepared in line with CABI Space guidance¹².

¹¹ PPG17 – Open Space, Sport and Recreation (HMSO, 2002).

¹² Green Space Strategies – a Good Practice Guide (CABI Space, Undated)

Community Initiatives

- 5.3.3 It is recommended that the Council gives consideration to continuing to encourage and support community involvement in the future applications of the LCA through development of 'bottom-up' character based initiatives at local level.

Landscape Planning Toolkit

- 5.3.4 The Landscape Character Assessment describes the varied characteristics of the landscape and provides strategies/guidelines for its protection and enhancement. The Council may wish to consider preparing a 'Landscape Planning Toolkit' to provide guidance on how this landscape character assessment information can be used by planners, designers, developers and local communities to inform the planning of new development. It would provide guidance to assist in better understanding landscape issues, and raising the standard of new development through creative design responses appropriate to the particular character/identity of a place and its wider setting.

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Glossary

Design Guides:

A document providing guidance on how development can be carried out in accordance with the design policies of a local authority or other organisation often with a view to retaining local distinctiveness.

Geology:

Geology studies the composition, structure, physical properties, history and the processes the shape the Earth's components.

Landform:

Landform is categorised by features such as elevation, slope, orientation, and rock exposure and soil type.

Landscape Character Area:

Single, unique pieces of landscape which are the discrete geographical areas of a particular Landscape Character Type.

Landscape Character Type:

Homogenous tracts of landscape which share broadly similar combinations of geology, topography, drainage patterns, vegetation, historical land use and settlement pattern. They are generic in nature and they may occur in different parts of the country.

Landscape Character Unit:

Landscape Character Type + Landscape Character Area.

Landscape Character:

A tool that allows landscape character to be understood explained and described in a transparent and robust way by mapping and describing the variations in physical, natural and cultural attributes and experiential characteristics that make one area distinctive from another at a range of spatial scales.

Local Development Document (LDD):

Local Development Documents are those documents that together make up the Local Development Framework. They comprise Development Plan Documents, Supplementary Planning Documents and the Statement of Community Involvement.

Local Development Framework (LDF:

A folder of local development documents that outlines how planning will be managed in the area.