

6.0 Ecology

Summary

This chapter addresses in detail the potential ecological effects of the Proposed Horkesley Park Heritage and Conservation Centre (hereafter referred to as Horkesley Park). It is supported by a Technical Appendix which details the outcomes of a suite of ecological surveys undertaken on the site since 2003. Ecological surveys which have been undertaken on the site include an extended Phase 1 habitat survey and a hedgerow survey as well as surveys for breeding birds, great crested newts, water voles, bats and badgers.

Overall, the proposed development is considered to have little impact on the existing ecology of the site and it is believed that the proposed habitat enhancements will be of significant benefit to the ecology and biodiversity within the local area. The development will include the construction of a visitor centre within The Nursery Site, which has little or no biodiversity value. The ground level footprint of the new buildings within The Nursery Site will be less than half of the footprint of the existing glasshouses, industrial type buildings and other structures. The existing houses will remain, including The Chantry, the garden of which will be restored and enhanced to receive the general public. Arable fields will be turned to parkland pasture and wild flower meadows, as part of the proposed Suffolk Punch Breeding Centre and heritage farming. The majority of the site will be enhanced for use as a Country Park with educational and conservation facilities. New hedgelines and woodlands are to be planted. The overall effect will be one of creating new habitats and enhancing existing ones to support a greater level of biodiversity and increase the complexity and connectivity of habitat linkages.

The proposals have been developed with the existing ecological resources of the study area in mind, balancing impacts on particular species or habitats through an iterative process, taking into account all relevant issues relating to requirements, for example, for remediation and construction. The ecology baseline has provided guiding constraints to these other requirements that have been fine-tuned as further ecological survey data emerged to inform the masterplan.

The ecological mitigation, and where necessary, compensation measures, therefore form an integral part of the development proposals and have been designed specifically to reduce or avoid ecological effects; they are addressed specifically in this chapter for each identified ecological resource. The aims of the strategy for ecology is also to, where possible, provide a beneficial contribution for ecological enhancement; this includes both on-site mitigation and off-site compensation measures in line with recent guidance from PPS9. In light of the proposals, the proposed development is considered to have little impact on the existing ecology of the site and it is believed that the proposed habitat enhancements will be of significant benefit to the ecology and biodiversity within the local area.

6.1 Introduction

Brief Description of the Site

- 6.1.2 The Horkesley Park site (hereafter referred to as the site) comprises land to the north of Great Horkesley, Colchester, Essex on the southern side of the Stour Valley at Ordnance Survey grid reference TL970322. The site includes land north-west of London Road and west of Nayland Road (A134). The site comprises The Chantry, a Georgian house set in its own grounds; Hillside and The Chantry Lodge private houses and gardens ; The Park and Farmland, comprising a mix of arable land, rough ground, grassland including a cricket ground, and interspersed with areas of mature and semi-mature woodland, linear tree belts and hedgerows , many hedgerows, ponds and two irrigation reservoirs; and a Nursery Site in the south eastern part of the site consisting of the redundant tomato glasshouse nursery and industrial type buildings and other structures, and extending to 4.2 hectares. To the north of The Nursery Site but outside the site, lies the Church of All Saints, a Grade 1 Listed building.
- 6.1.3 This Chapter examines the likely significant ecological effects of the Horkesley Park proposals and includes a summary of the ecological surveys undertaken, which describe the current baseline conditions. The Ecological Baseline Assessment report is included as a Technical Appendix to this Chapter (see Volume 2A, Appendix 6.1).
- 6.1.4 This Chapter also describes the methods used to determine the effects of the development on current baseline conditions; the mitigation measures required to prevent, reduce or offset any significant adverse effects; and the likely residual effects after these measures have been employed. The effects of the proposed development considered are those both during demolition/construction and operation and take into account direct, indirect, secondary, cumulative, short, medium and long-term, beneficial and adverse effects of the proposed development.

Study Area

To assess the potential effect of Horkesley Park on the site, detailed ecological survey work has been undertaken over a number of years within the site and a desk study has been undertaken to collect ecological information from the wider area. The area of search for the desk study extends for 1km from the site. It is important to collect information from such a wide area to place the site and its ecological interests in context.

6.2 Methodology

Desk Study

Data Search

- 6.2.2 Existing ecological records of protected species and non-statutory designated Sites of Importance to Nature Conservation (SINCs) from a 1km radius around the study area were

requested from non-statutory and statutory nature conservation. Further information was obtained from ecological resources available on-line (For full details see Volume 2A, Appendix 6.1).

Pre-existing Survey Information

- 6.2.3 An extended Phase 1 Habitat Survey was carried out by Carter Ecological Ltd. on behalf of Landscape Design Associates (now LDA Design) in June 2001, in order to provide a preliminary ecological description and evaluation of land at the application site.

Consultation

- 6.2.4 In 2004 an Environmental Impact Assessment (EIA) Scoping Report was issued to a number of statutory and non-statutory bodies for comment. These consultees included:

- English Nature - Essex Hertfordshire & London Team
- Essex Wildlife Trust
- Essex Ecology Services
- Colchester Borough Council

Field Survey

Phase 1 Habitat Survey

- 6.2.5 The original extended Phase 1 Habitat Survey undertaken in 2001 was repeated and updated in November 2003 by LDA Design Ecology according to published guidelines (JNCC 1993), and three extensions to the original application site were also included within the survey at that time. (Refer to Volume 2A, Appendix 6.2) In addition, the extended Phase 1 Habitat Survey was repeated and updated in May 2006 (Figure 6.1).
- 6.2.6 Further field surveys were undertaken for great crested newts, breeding birds, badgers, water voles, bat roosts and bat activity during 2004, 2005 and 2006. In addition, a detailed hedgerow survey was undertaken in 2006, along with a walkover survey to assess the bird species present within the site in the same year. An update of the bat roost, badger and water vole survey was undertaken in 2008. Refer to Volume 2A, Appendix 6.1 for more information on Phase I Survey methodology and timing.

Hedgerow Survey

- 6.2.7 A detailed assessment of the hedgerows within the site was undertaken in 2006 in accordance with the criteria set out within the Hedgerow Regulations 1997. These criteria are used in determining which hedgerows are 'important'; relating to the value of hedgerows from an archaeological, historic, landscape or ecological perspective. Refer to Volume 2A, Appendix 6.1 for more information on hedgerow survey methodology and timing.

Breeding Birds

- 6.2.8 A breeding bird survey was undertaken in 2004 following the standard Common Bird Census (CBC) methodology (Gilbert et al. 1998) but modified from ten to two survey visits. Behaviour and locations of birds were analysed to create a map of probable breeding bird registrations relating to different territories and to judge which birds were using the area for breeding or for other activities such as foraging. A walkover survey to update this information was undertaken in May 2006. Refer to Volume 2A, Appendix 6.1 for more information on breeding bird survey methodology and timing.

Great Crested Newts and Other Amphibians

- 6.2.9 Two separate suites of surveys for great crested newts were undertaken within the site; one in 2004 and a second in 2006 (Figure 3). The survey conducted in 2004 was considered to be undertaken at a sub-optimal time for great crested newt surveying and thus the surveys were repeated in 2006. In 2006 the surveys were undertaken at the optimum survey period for great crested newts. During these surveys, the standing open water habitats were assessed for their suitability to support great crested newts (Oldham et al. 2000) and were surveyed for the presence of this species and other species of amphibian. The survey effort employed in 2006 was in accordance with guidelines from English Nature (2001). Refer to Volume 2A, Appendix 6.1 for more information on great crested newt survey methodology and timing.

Badgers

- 6.2.10 The site and adjacent fields were surveyed in February 2005 and January 2008 for signs of badger presence including trackways, setts, latrines, badger hairs, badger odour and badger foraging signs. Refer to Volume 2A, Appendix 6.1 for more information on badger survey methodology and timing.

Water Voles

- 6.2.11 Three ponds and a stream (running along the western boundary of the site) were surveyed in February 2005 and January 2008 for signs of water voles including burrows, latrines, characteristic foraging remains and water vole trackways. Refer to Volume 2A, Appendix 6.1 for more information on water vole survey methodology and timing.

Bats

Bat Activity

- 6.2.12 Two bat activity surveys were undertaken in the summer of 2004. The surveys employed two surveyors, including experienced and appropriately licensed bat surveyors. The activity surveys consisted of a walked transect, with listening stations, through habitat features considered likely to support foraging and commuting bats. Refer to Volume 2A, Appendix 6.1 for more information on bat activity survey methodology and timing.

Bat Roosts

6.2.13 Three visits were made by a licensed bat surveyor to examine bat roosting potential within (and just outside) the site. The surveys were undertaken in June 2004, February 2005 and January 2008 and both buildings and trees were included within the assessment. During the surveys, searches were made for evidence of the presence of bats including droppings, characteristic staining, scratch marks, live and dead bats, potential and actual bat access points.

Other mammals

6.2.14 Observations of other mammal species, for example brown hare, were made during the other surveys within the site.

Survey Timing

6.2.15 The suite of surveys outlined above were undertaken, and updated, over a number of years. The results of these surveys therefore provide a long-term baseline for the ecological assessment of the site. Where considered appropriate and necessary, specific species surveys have been renewed and updated. However, certain survey elements have not been revised since their initial undertaking. This is not considered to be a constraint to the baseline ecological information since the habitats within the site have changed little since ecological surveys were initiated (2001) and it is considered unlikely that significant changes have occurred for species specific to the site.

Assessment Methodology

6.2.16 The assessment methodology for this chapter follows the 'Guidelines for Ecological Impact Assessment' developed by the Institute of Ecology and Environmental Management (IEEM 2006). The objective of the Guidelines is to promote a scientifically rigorous and transparent approach to Ecological Impact Assessment (EclA), as a key component of Environmental Impact Assessment (EIA). The Guidelines comprise advice on best practice in four key areas of EclA:

- Identifying and evaluating ecological features;
- Characterising and quantifying effects and assessing their significance;
- Minimising adverse effects and maximising benefits through the scheme design process; and
- Identifying legal and policy implications and their consequences for decision-making.

Valuing Ecological Features and Resources

6.2.17 The IEEM Guidelines recognise that ecological evaluation is a 'complex and subjective process' but provides key considerations to apply when 'applying professional judgement to assign values to ecological features and resources'. These include consideration of: geographic frame of reference; site designations and features; biodiversity value; large populations or important assemblages of species; potential value, secondary or supporting value; social/community value and economic value.

6.2.18 Focusing on assessments of biodiversity value, there are various characteristics that can be used to identify ecological resources or features that are likely to be important in terms of biodiversity.

These include:

- Rare or uncommon species in the local, national or international context;
- Endemic or locally distinct sub-populations of a species;
- Species on the edge of their distribution;
- Notably large populations of animals or concentration of animals considered uncommon or threatened in a wider context;
- Species-rich assemblages of plants or animals;
- Ecosystems and their component parts, which provide the habitats required by the above species, populations and/or assemblages;
- Plant communities (and associated animals) considered typical of valued natural/semi-natural vegetation types; and
- Habitat diversity, connectivity and/or synergistic associations.

6.2.19 In this chapter, all ecological resources or features are assigned to a value relating to their geographic frame of reference, using the following scale:

- International
- UK
- National (England)
- Regional (East Anglia)
- County (Essex)
- District/Borough (Colchester Borough)
- Local or parish (Great Horkesley)
- The immediate zone of influence of the site

Characterising and Quantifying Effects and Assessing their Significance.

6.2.20 The Guidelines state that ecological effects should be characterised in terms of ecosystem structure and function and reference should be made to: positive or negative effects; extent; magnitude; duration; reversibility; timing and frequency; and cumulative effects. The guidelines provide a list of 'key aspects of ecosystems to consider when predicting effects'.

6.2.21 For the purpose of this EclA, the short-term effects during construction are defined as those effects that come about due to construction and last for six weeks at the most; long-term effects during construction are those that could potentially last throughout the construction period and potentially beyond once the development is complete. However, it should be noted that these terms are considered in the assessment relative to each habitat or species affected and their

respective successional processes or life-cycles. For example, 6 weeks for one species may represent a single generation time period, but for another it may be a few weeks in a life lasting several years.

6.2.22 Following the characterisation of effects, an assessment of the ecological significance of an effect is made. Prior to the publication of the current Guidelines in 2006, ecological significance was defined using a matrix in which ecological value and magnitude of effect were combined to determine different grades of significance; usually high, medium or low. As an example of comparing and contrasting the 'old' approach to ecological impact assessment with the new guidance; a significant adverse impact in the local context under the new guidance might be considered to be of low significance under the old approach, while a significant adverse impact in a national context might be considered to be of high significance under the old approach. The guidance now advises that assigning levels of significance in this way obstructs a clear understanding of the EclA process and can result in an assessment that lacks rigour (IEEM 2005). The Guidelines promote a more transparent approach in which a beneficial or adverse effect is determined to be significant or not, in ecological terms, in relation to the integrity of the defined site or ecosystem(s) and/or the conservation status of habitats or species within a given geographical area, which relates to the level at which it has been valued. The decision about whether an effect is significant or not, is independent of the value of the ecological feature; the value of any feature that will be significantly affected is then used to determine the implications, in terms of legislation, policy and or development control. (IEEM 2005).

6.2.23 The Guidelines (IEEM 2006) advise that it is important to consider the likelihood of a predicted impact, along with the degree of confidence in the assessment of the effect on ecological structure and function. The decision on confidence levels is based on professional judgement; the scale of confidence levels used for this chapter of the ES is as follows:

- Certain/near-certain: probability estimated at 95% chance or higher;
- Probable: probability estimated between near-certain and 50:50;
- Unlikely: probability less than 50:50 but above 5%; and
- Extremely unlikely: probability estimated at less than 5%

6.2.24 The concepts of 'ecological integrity' and 'conservation status' should also be considered when evaluating a feature of ecological interest. The Guidelines refer to 'integrity' as defined in the joint ODPM Circular 06/2005 and Defra Circular 01/2005 to accompany Planning Policy Statement 9 as *'the coherence of the ecological structure and function, across a site's whole area, that enables it to sustain that habitat, complex of habitats and/or the levels of populations of species for which it was classified'* (ODPM 2005b). The term 'conservation status' relates to the viability, rarity and condition of habitats and species. It is defined in the Guidelines to ensure that it can be

'applied to sites, habitats or species within any defined geographical area...If an effect is found not to be significant at the highest geographical level at which the resource or feature has been valued, it may be significant at a lower geographical level'.

- 6.2.25 The Guidelines also state that: *'Significant effects on features of ecological importance should be mitigated (or compensated for) in accordance with guidance derived from policies applied at the scale relevant to the value of the feature or resource and that: Any significant effects remaining after mitigation (the residual effects), together with an assessment of the likelihood of success in the mitigation, are the factors to be considered against legislation, policy and development control in determining the application (IEEM 2006) '.*

6.3 Planning Context and Legislation

Planning Policy

- 6.3.2 There are a number of national, regional and local policies that relate to nature conservation and ecology within the planning process. Reference to these provides a summary and indication of the likely requirements and expectations of statutory authorities in relation to planning applications and nature conservation and ecology within a given area.

PPS9

- 6.3.3 Planning Policy Statement 9: Biodiversity and Geological Conservation (PPS9) (ODPM 2005a) sets out planning policies on the protection of biodiversity and geological conservation through the planning system and replaces Policy Planning Guidance Note 9 (PPG9) on nature conservation (Defra 1994). One of the six Key Principles (Principle (vi)) of PPS9 that regional planning bodies and local planning authorities should adhere to, is to ensure that the potential effects of planning decisions on biodiversity and geological conservation are fully considered, it states:

'The aim of planning decisions should be to prevent harm to biodiversity and geological conservation interests. Where granting planning permission would result in significant harm to those interests, local planning authorities will need to be satisfied that the development cannot reasonably be located on any alternative sites that would result in less or no harm. In the absence of any such alternatives, local planning authorities should ensure that, before planning permission is granted, adequate mitigation measures are put in place. Where a planning decision would result in significant harm to biodiversity and geological interests which cannot be prevented or adequately mitigated against, appropriate compensation measures should be sought. If that significant harm cannot be prevented, adequately mitigated against, or compensated for, then planning permission should be refused'.

- 6.3.4 Other paragraphs of particular relevance in PPS9 include paragraphs 13 and 14:

Paragraph 13:

'The re-use of previously developed and for new development makes a major contribution to sustainable development by reducing the amount of countryside and undeveloped land that needs to be used. However, where such sites have significant biodiversity of geological interest or recognised local importance, local planning authorities, together with developers, should aim to retain this interest or incorporate it into any development of the site'.

Paragraph 14:

'Development proposals provide many opportunities for building-in beneficial biodiversity or geological features as part of good design. When considering proposals, local planning authorities should maximise such opportunities in and around developments, using planning obligations where appropriate'.

- 6.3.5 PPS9 is accompanied by Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Effect within the Planning System (Defra Circular 01/2005 and ODPM Circular 06/2005) (ODPM 2005b). This aims to support PPS 9 by 'providing guidance on the application of the law in relation to planning and nature conservation as it applies in England'. In addition, the Government has also produced further guidance to complement these two documents: Planning for Biodiversity and Geological Conservation: A Guide to Good Practice (ODPM 2006). This document provides guidance, through case studies and examples, to achieve the key principles of PPS9 and comply with the legal requirements set out in the Circular. It does not provide additional national policy or provide legal interpretation, but is intended to be used in conjunction with PPS9 and the Circular to further biodiversity and geological conservation.
- 6.3.6 PPS9, the Circular Defra 01/2005 and ODPM 06/2005 aim to ensure that 'construction development and regeneration should have minimal effects on biodiversity and enhance it where possible'. The guidance proposes to ensure that planning decisions are made based on up-to-date information and ensure the maintenance, enhancement, restoration or addition of biodiversity within scheme design and ensure planning decisions 'prevent harm to biodiversity and geological conservation interests' (ODPM 2005a). The government circular makes reference to the UK Biodiversity Action Plan, England Biodiversity Strategy and Local Biodiversity Partnerships. These documents outline strategic action for biodiversity at both the national and local level and are considered further below.

East of England Plan: Regional Spatial Strategy (RSS14)

- 6.3.7 The East of England Plan, comprising the revision to the Regional Spatial Strategy (RSS) for the East of England, was adopted in May 2008. It provides a consistent regional framework to inform the preparation of Local Development Documents which must be in general conformity with the

RSS, local transport plans and regional and sub regional strategies. RSS policies may also be material to decisions on individual planning applications and appeals.

6.3.8 Section 8 of the East of England Plan: Environment sets out the broad principles for the management of the region's natural, built and historic environment and which underpin the Policies ENV 1 – 7 that follow on in the section. The environmental challenges, aims and actions in the Regional Environment Strategy (2003) and the Woodland Strategy for the East of England, Woodland for Life, 2003 also provide the context to Policies ENV 1-7.

Policy ENV 3: Biodiversity and Earth Heritage

6.3.9 Policy ENV3 is the key policy in respect of nature conservation and biodiversity. Relevant extracts are summarised below together with qualifying comments in relation to the Horkesley Park proposals.

6.3.10 Policy ENV3 sets out the importance of ensuring 'that the region's wider biodiversity, earth heritage and natural resources are protected and enriched through the conservation, restoration and re-establishment of key resources...'. The provision of the strongest level of protection for internationally and nationally designated sites is also emphasised.

6.3.11 The policy also confirms that proper consideration is given 'to the potential effects of development on the conservation of habitats and species outside designated sites and on species protected by law'.

6.3.12 The policy sets out a range of actions in relation to these key resources, as follows:

- *ensuring new development minimises damage to biodiversity and earth heritage resources by avoiding harm to local wildlife sites and, wherever possible, achieving net environmental gains in development sites through the retention of existing assets, enhancement measures and new habitat creation;*
- *promoting the conservation, enhancement, restoration, re-establishment and good management of habitats and species populations in accordance with East of England regional biodiversity targets and the priorities established in the East of England Regional Biodiversity Map;*
- *identifying and safeguarding areas for habitat restoration and re-establishment which will deliver human and wildlife benefit; and*
- *ensuring the appropriate management and further expansion of wildlife corridors that are important for the migration and dispersal of wildlife.*
- *establishing networks of green infrastructure, maximising their biodiversity value;*

6.3.13 The principles that underpin the Horkesley Park proposals are intrinsically linked to the heritage and conservation management of the land with the intention that the site will serve as a

demonstration of the long term management and husbandry of the land to the highest standards. The protection, conservation and enhancement of the 'biodiversity, earth heritage and natural resources' within the land is therefore of paramount importance in achieving these goals.

- 6.3.14 The proposals also meet the actions set out in the policy, notably the achievement of a net environmental gain through the retention, restoration and enhancement of the existing biodiversity assets as well as the creation of new habitats, and associated good management practices. The enhanced woodland structure within the site, together with other associated habitats, will also contribute to the expansion of wildlife corridors and the wider network of green infrastructure.

County and Local Planning Context

- 6.3.15 The Essex and Southend-on-Sea Replacement Structure Plan expired in September 2007. A number of policies were saved through a Special Direction but none are relevant to ecological issues. The Adopted Review Colchester Borough Local Plan (CBLP) also expired in September 2007. Unlike the former Structure Plan, most of the Local Plan policies were saved and remain extant until the adoption of Colchester Borough Council's (CBC's) emerging Local Development Framework (LDF). Reference is therefore made to relevant Saved Policies in the following review.

Colchester Borough Council: Core Strategy

- 6.3.16 The Core Strategy of CBC's LDF was approved in December 2008 and its policies are now a material consideration. As part of that process a number of the Saved Policies in the Adopted Local Plan have now been deleted and superseded by Core Strategy Policies. In the context of this ecological assessment, the relevant deleted Saved Policies comprise Policy CO1 - Countryside which is superseded by Core Strategy Policies ENV1 and ENV 2.

Core Strategy Policy ENV1: Environment

- 6.3.17 Policy ENV1 is concerned with the conservation and enhancement of the natural and historic environment, countryside and coastline within the Borough. In relation to ecological considerations, the policy confirms that: *'Where new development needs, or is compatible with, a rural location, it should demonstrably:*

- iv. protect, conserve or enhance the interests of natural and historic assets; and*
- vi. protect habitats and species and conserve and enhance the biodiversity of the Borough; and*
- vii. provide for any necessary mitigating or compensatory measures.'*

- 6.3.18 The Horkesley Park proposals are committed to the protection, conservation and enhancement of the natural resource, including the habitats and species within the site and will contribute to an overall gain in the biodiversity value.

Adopted Review Colchester Borough Local Plan (March 2004)

6.3.19 Saved Policy CO5 in Section 5: Countryside of the Adopted Review Colchester Borough Local is relevant to ecological issues.

Saved Policy CO5 states that:

'Development that would adversely affect wildlife habitats of international or national importance will not be permitted unless the reasons for the development clearly outweigh the nature conservation value of the site itself and the international or national policy to safeguard the network of such sites.

Development and land use changes likely to have an adverse effect upon the following sites and habitats listed below will not be approved unless it can be clearly demonstrated that there are reasons for the proposal which outweigh the need to safeguard the substantive nature conservation interest in the site. Where development is permitted and is likely to cause damage, such damage will be kept to a minimum. Where this is not possible, appropriate mitigating measures will be sought before planning permission is granted. The creation of new habitats will be required as early as possible in the development process, and in some cases this may be before development commences. Such measures will include the creation of habitats of equal quality elsewhere within the site or the Borough as a whole. Where these measures are not possible, planning permission will be refused.

Local Nature Reserves or potential Local Nature Reserves;

Sites of Importance for Nature Conservation;

Regionally Important Geological/Geomorphological Sites;

Existing woodlands and hedgerows, particularly those in the Inventory of Ancient Woodlands;

Habitats identified as declining in the Essex Biodiversity Action Plan;

Important hedgerows;

Wetlands, water meadows and ponds;

Unimproved grasslands'.

6.3.20 The sites or habitats listed in Policy CO5 are either not present or will not be adversely affected by the Horkesley Park proposals. While there are some ponds within the site, these are overgrown and in poor condition and it is intended that they will be restored as an integral part of the proposals. Furthermore, the wider proposals for the site include the retention, enhancement

of existing habitats and hence the species they support, as well as the creation new habitats, resulting in overall enrichment of the biodiversity value of the site.

6.3.21 Policy CO6 was concerned with the affect of development proposals on protected sites and species and their habitats, but was not saved and is therefore withdrawn. However, protected sites and species are covered by government legislation, notably the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way (CRoW) Act, 2000, and the Natural Environment and Rural Communities (NERC) Act 2006. Further protection is also afforded through PPS 9. This legislative protection is examined further in Section 4.1.7.

English Nature Natural Areas

6.3.22 The site is located on the borders of two English Nature Natural Areas: The London Basin and East Anglian Plain. The London Basin Natural Area is characterised by islands of semi-natural habitats. These habitats include large areas of woodland, with extensive stands of mature beech woods, significant areas of lowland mixed deciduous woodland and numerous large wood pastures and parklands. There are also notable areas of heathland in the Natural Area. The East Anglian Plain is an ancient landscape upon which modern agriculture has been imposed. There is a complex network of old hedgerows, ancient woods, villages, hay meadows and pastures, streams and rivers, and wetlands, set in arable land.

Biodiversity Action Plan

6.3.23 As a direct result of the signing of the Convention on Biological Diversity at the Earth Summit in 1992 the Government has drawn up a national strategy to conserve our threatened native species and habitats - the UK Biodiversity Action Plan (UK Biodiversity Partnership, 2006).

6.3.24 The list of priority species within the UK Biodiversity Action Plan was updated in 2007 and now includes 1149 species. Priority species within the UK Biodiversity Action Plan which are relevant to the site are considered to be:

- Soprano pipistrelle
- Brown long-eared bat
- Noctule
- Brown hare
- Water vole
- Bullfinch
- Linnet
- Reed bunting
- Turtle dove
- Spotted flycatcher
- Skylark

- Dunnock
- Cuckoo
- Yellowhammer

6.3.25 Priority habitats within the UK Biodiversity Action Plan which are relevant to the site are considered to be:

- Hedgerows

6.3.26 At a more local level, a Biodiversity Action Plan (BAP) exists for the County of Essex. Priority habitats and species (in addition to those covered under the UK BAP) within the Essex Biodiversity Action Plan which are relevant to the site include:

- Ancient woodland

Legislation Relating to Protected Sites and Species

Wildlife and Countryside Act 1981 (as amended)

6.3.27 The Countryside and Rights of Way (CRoW) Act, 2000 provides protection to certain sites and species within the UK and an amendment to the Wildlife and Countryside Act 1981. There are several pieces of legislation previous to this Act which also provide varying degrees of protection to species and special sites in the UK: the Wildlife and Countryside Act (1981) (as amended); the Conservation Regulations (1994); the Protection of Badgers Act (1992); the Abandonment of Animals Act (1960); and the Wild Mammals (Protection) Act (1996). The protection afforded to various species is described below, including references to the relevant legislation outlined here.

Natural Environment and Rural Communities (NERC) Act 2006 and Section 41

6.3.28 Section 41 of the NERC Act 2006 replaces what is in existing subsections (2) and (5) of Section 74 of the CRoW Act 2000. It places a duty on the Secretary of State to publish, review and revise lists of living organisms and types of habitat in England that are of principal importance for the purpose of conserving English biodiversity and to consult Natural England before doing so. It also requires the Secretary of State to take, and promote the taking of, steps to further the conservation of the listed organisms and habitats. Those species found at the site that are listed on Section 41 of the NERC Act 2006 are identified in the Results section of this chapter.

6.3.29 The Government's Planning Policy Statement 9 (PPS 9), on Biodiversity and Geological Conservation, states that those species identified as being of principal importance for the purpose of conserving English biodiversity (i.e. those listed within Section 41 of the NERC Act 2006) should be protected from the adverse effects of development through the planning

system. The conservation of these species should be promoted through the incorporation of beneficial biodiversity designs within developments.

Breeding Birds

6.3.30 Breeding birds are protected under the Wildlife and Countryside Act 1981 (as amended), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. In addition to this, for some rarer species (listed on Schedule 1 of the Act), it is an offence to intentionally or recklessly disturb them while they are nest building or at or near a nest with eggs or young, or to disturb the dependent young of such a bird.

Great Crested Newts *Triturus cristatus*

6.3.31 Great crested newts are protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000) and under the Conservation (Natural Habitats, etc.) (Amendment) Regulations 2007. Taken together, these make it an offence to:

- (a) Deliberately capture or intentionally take a great crested newt
- (b) Deliberately or intentionally kill or injure a great crested newt
- (c) To be in possession or control of any live or dead great crested newt or any part of, or anything derived from a wild great crested newt
- (d) Damage or destroy a breeding site or resting place of such an animal or intentionally or recklessly damage, destroy or obstruct access to any place that a great crested newt uses for shelter or protection
- (e) Intentionally or recklessly disturb any great crested newt while it is occupying a structure or place that it uses for shelter or protection.
- (f) Deliberately disturb a great crested newt in such a way as to be likely significantly to affect;
 - (i) the ability of any significant group of animals of that species to survive, breed or rear or nurture their young; or
 - (ii) the local distribution or abundance of that species.

Badger *Meles meles*

6.3.32 Badgers are protected under The Protection of Badgers Act (1992). This makes it an offence to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so; or to intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it.

6.3.33 Work up to 30m from any of the setts may require a license, dependent on the type of work required. Natural England's guidance on the types of activity which it considers should be licensed within certain distances of sett entrances is as follows:

- using very heavy machinery (generally tracked vehicles) within 30 metres of any entrance to an active sett;
- using lighter machinery (generally wheeled vehicles), particularly for any digging operation, within 20 metres; and
- light work such as hand digging or scrub clearance within 10 metres.

6.3.34 Licenses for such work will only be issued by Natural England in the period 1st July- 30th November in any year.

Bats

6.3.35 Bats are protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000) and under the Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007. Taken together, these make it an offence to:

- (a) Deliberately capture or intentionally take a bat
- (b) Deliberately or intentionally kill or injure a bat
- (c) To be in possession or control of any live or dead bat or any part of, or anything derived from a wild bat
- (d) Damage or destroy a breeding site or resting place of such an animal or intentionally or recklessly damage, destroy or obstruct access to any place that a bat uses for shelter or protection
- (e) Intentionally or recklessly disturb any bat while it is occupying a structure or place that it uses for shelter or protection.
- (f) Deliberately disturb any bat in such a way as to be likely significantly to affect;
 - (i) the ability of any significant group of animals of that species to survive, breed or rear or nurture their young; or
 - (ii) the local distribution or abundance of that species.

6.3.36 A bat roost may be any structure a bat uses for breeding, resting, shelter or protection. It is important to note that since bats tend to re-use the same roost sites, legal opinion is that a bat roost is protected whether or not the bats are present at the time.

Water Voles *Arvicola terrestris*

6.3.37 Water voles are protected under the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to intentionally or recklessly damage, destroy or obstruct access to any place of shelter or protection that the animals are using, or intentionally or recklessly disturb voles while they are using such a place.

Other Mammals

- 6.3.38 The Wild Mammals (Protection) Act 1996 (as amended) makes provision for the protection of all wild mammals from certain cruel acts. This act makes it an offence for any person to intentionally cause suffering to any wild mammal.

6.4 Baseline Assessment and Evaluation

Constraints on Study Information

Breeding Birds

- 6.4.2 The survey in 2004 was undertaken late in the bird breeding season and by this time some species will already have finished nesting. This has two implications; firstly, some birds recorded on site may actually have nested off-site, using the site for foraging during the post-nesting period; secondly, early nesting species, such as tit and wader species, could move away from the site and remain undetected as breeding species or their density may be lower than they were earlier in the season. This may explain the absence of widespread species such as song thrush which would be expected to occur on a site such as this. However, it is considered that the species assemblage within the site is typical of lowland farmland and that the survey data is robust in identifying the majority of species within the site. In addition, as the important bird habitats are going to be largely maintained or improved through the Horkesley Park proposals, this constraint is unlikely to be significant in determining the potential negative impacts. Moreover, a walkover survey was conducted in May 2006 which confirmed the bird species present within the site and concluded that the 2004 data was comprehensive and robust.

Desk Study Results

Statutory and non-statutory sites of nature conservation importance

- 6.4.1 There are no statutory designated sites of nature conservation importance within a 1km radius of the site boundary.
- 6.4.2 Two non-statutory wildlife sites occur within 1km of the proposed development site. A brief description of these sites is given below.

Creak’s Grove County Wildlife Site (Ordnance Survey grid reference TL 962328)

- 6.4.3 A woodland of pedunculate oak *Quercus robur*, sycamore *Acer pseudoplatanus*, ash *Fraxinus excelsior* and horse chestnut *Castanea sativum* over a mixed understorey layer.

Great Horkesley Churchyard County Wildlife Site (Ordnance survey grid referenmce TL 974322)

- 6.4.4 Relict acidic grassland sward with harebell *Campanula rotundifolia* and a red fescue *Festuca rubra* turf.
- 6.4.5 Both these sites are considered to be of value in the **County** context.

Pre-existing Site Survey Information

6.4.6 The previous survey of a section of the study area conducted by Carter Ecological on behalf of LDA Design in 2001 had the following general conclusions.

- Arable farmland dominates the majority of the site.
- Where grassland occurs it is generally agriculturally improved, recently sown grassland and amenity grassland.
- Fragments of ancient woodland and more recently planted woodland occur in certain localities.
- Hedgerows form the boundaries of arable fields and pasture.
- Small streams with wooded margins occur along certain site boundaries.
- Standing open water habitats occur in the form of large and small ponds.
- The site contains relatively small areas of tall ruderal vegetation with some open scrub.

Records of Protected and Important Species

6.4.7 Although there are no existing ecological records specific to the site or to land adjacent to the site, suitable habitats may exist for great crested newts, badgers, bats and water voles.

Field Survey Results with Evaluations

General Ecological Context

6.4.8 The site comprises The Chantry private house and gardens; Hillside and The Chantry Lodge private houses and gardens; The Park and Farmland comprising a mix of arable fields, areas of rough ground and grassland, areas of woodland, copses and hedgerows, and ponds and irrigation reservoirs; and The Nursery Site comprising a redundant tomato glasshouse nursery and industrial type buildings. (Figure 6.1). Details of the Phase 1 Habitat Survey results can be found in the Ecology Baseline Assessment (Volume 2A, Appendix 6.1).

Habitats and Flora

Ancient Woodland

6.4.9 Ancient woodland is referred to within the Colchester Borough Local Plan and the Essex and Southend-on-Sea Joint Structure Plan as being a habitat of importance to nature conservation and it is also a Priority Habitat within the Essex Biodiversity Action Plan (see Sections 3.1.2 & 3.1.3). Although none of the woodland within the site is listed within The Ancient Woodland Inventory (www.magic.gov.uk), within a 5km radius of the site there are 18 units of small, unconnected and fragmented ancient woodland (as listed within the Ancient Woodland Inventory); the largest of these being 25ha in size. However, the ground flora of Fishponds Grove, the copse (OS grid reference TL968321) and Rectory Grove contain species indicative of ancient woodland and make up a total area of approximately 3ha.

- 6.4.10 Given the lack of other sizeable units of ancient woodland within the immediate environs, and its importance within the Biodiversity Action Plan for the County, the relatively small areas of ancient woodland within the site are considered to be of value in the **County** context.

Plantation Woodland

- 6.4.11 The plantation woodland present in the site is included in the National Inventory of Woodland and Trees (www.magic.gov.uk). The area of woodland plantation, including the amenity woodland of The Chantry, covers an area of 4.5ha. Although there are many other units of plantation woodland within a 5km radius of the site boundary and the lack of established woodland ground flora in those areas, importance is given to increasing woodland cover within the Essex and Southend-on-Sea Joint Structure Plan. Given this, the plantation woodlands within the site are considered to be of importance within the **District** context.

Arable Farmland

- 6.4.12 The majority of the site is dominated by arable land (comprising 22ha). These fields are ploughed annually and have received intensive agricultural improvement over the years. Although cereal field margins are a priority habitat within the UK Biodiversity Action Plan, the arable land within the site is intensively cultivated and no rare plant species associated with arable field margins were noted during the surveys. The arable land within the site is therefore considered to have value within the **immediate zone of influence** of the site.

Grassland

- 6.4.13 Other than agriculturally unimproved grassland, grassland habitats are not priorities within the Colchester Borough Plan or Essex and Southend-on-Sea Structure Plan. The site has a total of grassland approximately 6.5ha of which 4.5ha are improved grassland, 1.5ha are managed for amenity and 0.5ha are species-poor semi-improved grassland.
- 6.4.14 Along the eastern boundary of site lies an area of amenity grassland which comprises the Great Horkesley Village Cricket Ground. This area of grassland is intensely managed and contains low species diversity. Its composition is typical of such areas of amenity grassland and considered to be of ecological value only **within the zone of immediate influence**.
- 6.4.15 Other areas of grassland within the site are agriculturally improved and are of low species diversity. These areas of grassland are considered to be of ecological value only **within the zone of immediate influence**.
- 6.4.16 Typical roadside verge vegetation occurs along the roads along the southern and eastern site boundaries. The grassland within these road verge areas is species-poor and semi-improved and is considered to be of ecological value only **within the zone of immediate influence**.

Running Water

- 6.4.17 Although no evidence of water voles was noted from these streams (see Section 4.3.3), running water habitats can support a range of invertebrates and act as habitat connections within the wider countryside. For this reason, the small streams which occur at the western and south-western boundaries of the site are considered to be of **Local** value.

Standing Open Water

- 6.4.18 The 'ponds' in Rectory Grove and the pond to the east of The Chantry (The Chantry Pond) are shallow and clogged with leaf litter and mud. The Rectory Grove 'ponds' do not hold standing open water and The Chantry Pond is dry towards the height of the summer. The ponds contain little or no marginal vegetation and are considered likely to support a poor diversity of invertebrates and are known to support only small numbers of common amphibians. Although ponds are considered to be an important habitat within the Colchester Borough Plan, these areas of standing open water are considered to be of value in the **Local** context due to their low habitat quality.
- 6.4.19 The two larger 'ponds' in the western section of the site, comprising irrigation reservoirs, support waterfowl and have dense fringing vegetation in certain localities. The irrigation reservoirs are stocked with large fish and therefore are unsuitable for amphibians due to the high level of predation. Although there is an unconfirmed sighting of a water vole within one of these irrigation reservoirs, the general poor habitat quality means that these are considered to be of **Local** value.

Buildings

- 6.4.20 The assessment of the buildings for their potential to support roosting bats is considered in Section 4.3.3. The buildings themselves are considered to be of **Negligible** ecological value.

Hedgerows (Figure 6.2)

- 6.4.21 Of the 22 hedgerows within the site, 3 are considered to be of 'importance' ecologically (nos. 6, 7 & 11) (Volume 2A, Appendix 6.1) and 11 are assessed as 'important' under landscape and historical criteria. Ancient hedgerows are priority species within the UK Biodiversity Action Plan and 'important' hedgerows are covered by Policy CO5 of the Essex and Southend-on-Sea Structure Plan as well as receiving legal protection under the Hedgerows Regulations 1997. Within the context of the site they provide nesting and foraging habitat for bird species and flight paths and foraging for bat species, as well as valuable habitat connections for other woodland animals and plants. These 'important' hedgerows are therefore considered to be of **County** value due to the diversity of woody species they support as well as other ecological features that occur within them.
- 6.4.22 Other ecologically 'non-important' hedgerows are variable in their species composition, but most tend to be species-poor. However, they do provide potential nesting and foraging habitat for bird