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Croft Avenue, Royston

Survey and Assessment (Preliminary)

October 2008

Ecological Impact Assessment

Vegetation Surveys

Ornithological Surveys

Protected Species Surveys

Invertebrate Surveys

Mitigation design and implementation

Land Management

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Notes	**This report contains sensitive information *concerning protected species* and caution should be exercised when copying and distributing to third parties.**	

Report Status	Authorised for Release	Date	Position
Draft 1	Rob Frith	2/10/2008	Managing Director

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1. INTRODUCTION

1.1. Ecology UK has been commissioned by South Yorkshire Housing Association to carry out an Extended Phase 1 survey and to complete the ecological part of a Code for Sustainable Homes Assessment (CfSH) for a proposed housing development at Croft Avenue, Royston.

1.2. This report describes the findings of the field survey and considers the potential impacts arising from the proposed developments and proposes appropriate mitigation measures.

1.3. This survey and report was completed by Dr John Moore PhD MIEEM, Principal Ecologist for Ecology UK LTD. Dr John Moore is a suitably qualified ecologist for the purposes of CSfH assessments having honours and postgraduate degrees in biology and ecology, having worked for Ecology UK LTD for 10 years and being a full member of the Institute of Ecology and Environmental Management.

2. SURVEY METHODOLOGY

2.1. Field Survey

2.1.1. Extended Phase I Habitat Survey Methodology

2.1.1.1. During the site visit the whole of the development site was examined in detail and lists of all the plant species identified were compiled. Separate lists were produced for each habitat area identified. Detailed species lists are provided in the site descriptions.

2.1.1.2. The habitats within the study area were mapped according to the techniques described in the publication —Handbook for Phase 1 Habitat Survey—published by the Joint Nature Conservation Committee 1993.

2.1.1.3. Sufficient detail on the composition of the vegetation can be obtained from a Phase 1 Habitat Survey, which enable it to be characterised and assessed.

2.1.1.4. During the site visit notes were made of features of potential value to other groups such as birds, mammals, amphibians, reptiles and invertebrates paying particular attention to protected species.

2.2. Evaluation Methodology

2.2.1. The thorough evaluation of the ecological importance of the features of a site is essential in order to assess the significance of the ecological effects of the development proposals.

2.2.2. The evaluation criteria are given in detail in Appendix 1. Their aim is to consider the habitats, communities and species present on site in relation to the following:

1. The legislative framework (e.g. the Wildlife and Countryside Act 1981 and the EC *Directive on the Conservation of Habitats and Wild Fauna* and Flora (92/43/EEC) for the presence of protected species and habitats).
2. Nature conservation designations, including national site designations (Sites of Special Scientific Interest, National Nature Reserves etc), local designations (Sites of Importance for Nature Conservation, Local Nature Reserves, County Wildlife Sites etc).
3. *Accepted criteria for species rarity and declining populations, and* rarity of habitat types or communities, including species and habitats identified in the British Red Data Books, national biodiversity action

plan, and species and habitats identified in regional or local biodiversity action plans where available.

4. Accepted criteria for overall site evaluation (including rarity, diversity, naturalness, historical factors and issues relating to landscape ecology).

3. CROFT AVENUE, ROYSTON

3.1. Desktop Study

To be completed

3.2. Field Survey

3.2.1. The site was surveyed on 6th September 2008.

3.2.2. There are two plots: plot A is lies off Doles Avenue and consists entirely of semi-improved neutral grassland whilst plot B lies of Croft Avenue and includes amenity grassland, semi-improved neutral grassland and a remnant boundary hedgerow to the east.

3.2.3. Plot A is very small but the semi-improved neutral grassland is moderately species-rich. Perennial Rye-grass *(Lolium perenne)* is abundant with frequent Red Fescue *(Festuca rubra)*, False Oat-grass *(Arrhenatherum elatius)*, Yorkshire Fog *(Holcus lanatus)*, Creeping Bent *(Agrostis stolonifera)*, Red Clover *(Trifolium pratense)*, Black Medick *(Medicago lupulina)* and Dandelion *(Taraxacum officinale agg.)*. Less abundant species include Hogweed *(Heracleum sphondylium)*, Ribwort Plantain *(Plantago lanceolata)*, Ragwort *(Senecio jacobaea)*, Creeping Cinquefoil *(Potentilla reptans)*, Prickly Sow-thistle *(Sonchus asper)*, Perennial Sow-thistle *(S. arvensis)*, Tansy *(Tanacetum vulgare)*, Bugloss *(Anchusa arvensis)* and Common Vetch *(Vicia sativa)*.

3.2.4. The semi-improved neutral grassland of Plot B is very similar with a few additional species at low abundance such as Bird's-foot Trefoil *(Lotus corniculatus)*, Common Sorrel *(Rumex acetosa)*, Russian Comfrey *(Symphytum x uplandicum)* and Redshank *(Persicaria maculosa)* whilst White Clover *(Trifolium repens)* is abundant.

3.2.5. The short mown amenity grassland is dominated by Perennial Rye-grass with abundant White Clover and frequent Dandelion and Daisy *(Bellis perennis)*. There are very few additional species.

3.2.6. The eastern boundary is marked by hedge or scrub line with abundant Blackthorn *(Prunus spinosa)* and frequent Hawthorn *(Crataegus monogyna)*. Sycamore *(Acer pseudoplatanus)*, Ash *(Fraxinus excelsior)*, Hazel *(Corylus avellana)* and Elder *(Sambucus nigra)* are occasional. The field layer has abundant False Oat-grass and Bramble *(Rubus fruticosus agg.)* with frequent Yorkshire Fog, Hedge Bindweed *(Calystegia sepium)* and Creeping Thistle *(Cirsium arvense)*. Cow Parsley *(Anthriscus*

sylvestris), Cleavers *(Galium aparine)*, Common Couch *(Elytrigia repens)* and Dandelion are occasional.

3.3. Evaluation

3.3.1. Neither of the plots at Croft Avenue are of sufficient size to have significant ecological value. Although the semi-improved neutral grassland is a moderately species-rich example of this very common habitat type only one of the species identified (Bugloss) is not common or very common. Bugloss is locally uncommon and does not appear to be recorded from the Ordnance Survey 10km grid square of the site. The grassland has also developed recently following demolition of houses, probably with some seeding. The habitat is therefore readily re-creatable.

3.3.2. The amenity grassland is a very common, very species-poor habitat containing only very common species. It is of negligible ecological value.

3.3.3. The hedgerow is not sufficient species-rich to be important within the meaning of the Hedgerow Regulations 1997. The field layer is poor with no "typical" woodland or hedgerow shade tolerant herbs. However, the shrubs have some maturity and the hedge is probably a remnant of the pre-housing field pattern.

3.3.4. Overall the plots are considered to have low ecological value for the purposes of a CfSH assessment. The hedgerow should be retained in the development proposals.

3.4. Recommendations Regarding Development

3.4.1. The following recommendations are made with respect to the existing biodiversity interest of the site.

Key Recommendations

- Retain the hedgerow within the development.
- In order to ensure that no wildlife offences are committed, all vegetation clearance should be carried out outside the bird nesting season (March – July inclusive).

Additional Recommendations

- There are no other areas of sufficient biodiversity interest to require protection in the development so there are no additional recommendations.

3.4.2. The following recommendations are made for any landscaping to be included in the proposals.

Key Recommendations

- Use native trees and shrubs typical of neutral lowland habitats in planting proposals to promote biodiversity interest. See Appendix 3.

Additional Recommendations

- Where short grassland is proposed consider inclusion of wildflowers tolerant of regular mowing to improve biodiversity interest. Species could include Selfheal *(Prunella vulgaris)*, Germander Speedwell *(Veronica chamaedrys)*, Common Cat's-ear *(Hypochoeris radicata)*, Bird's-foot Trefoil *(Lotus corniculatus)*, Lady's Bedstraw *(Galium verum)*, Cowslip *(Primula veris)* etc. Design mowing regimes to allow flowering.
- Where exotic shrubs are proposed choose berry bearing species of known value for feeding birds and flowering species with good value to invertebrates as nectar sources. See Appendix 3.
- Consider inclusion of some wildflower meadow habitat (cut once or twice a year) to improve biodiversity interest.
- Consider inclusion of bird and bat boxes on suitable structures.

4. ASSESSMENT AGAINST CFSH ECOLOGY CRITERIA

4.1. Eco 1 Ecological Value of the Site

4.1.1. The aim is to encourage development on land that already has a limited value to wildlife, and discourage the development of ecologically valuable sites. One credit is available.

- The development site must be confirmed as land of inherently low ecological value by using either Checklist Eco 1 or is confirmed as such by a Suitably Qualified Ecologist (SQE); and
- any land of ecological value outside the construction zone but within the development site will remain undisturbed by the construction works.

4.1.2. This report confirms that the site is of low ecological value. Providing that *the hedgerow is defined as outside the construction zone and protected* during construction the credit is achievable. The surveyor is an SQE as explained in section 1.

Potential Credits 1.

4.2. Eco2 Ecological Enhancement

4.2.1. The aim is to enhance the ecological value of the site. One credit is available.

- Where an SQE has been appointed to recommend appropriate ecological features that will positively enhance the ecology of the site; and
- Where the developer adopts all key recommendations and 30% of additional ones. No credits can be awarded where no ecological enhancement is proposed.

4.2.2. In addition all UK and EU legislation regarding protected species and habitats must have been complied with.

4.2.3. There will be no issues regarding UK and EU wildlife legislation relevant to the site. The proposed development drawings with landscaping are not yet available. However, ecological enhancement of the site is unlikely.

Potential credits 0

4.3. Eco 3 Protection of Ecological Features

4.3.1. The aim is to protect existing ecological features from substantial damage during site clearance and construction works. One credit is available.

- Where all existing features of ecological value on the development site potentially affected by the works, are maintained and adequately protected during site clearance, preparation and construction works.

4.3.2. The credit can be awarded by default where the site has been classified as having *low ecological value* in accordance with *Eco 1 – Ecological Value of the Site* AND no features of ecological value have been identified.

4.3.3. This credit can be awarded providing the hedgerow receives protection during construction.

Potential Credits 1

4.4. Eco 4 Change in Ecological Value of the Site

4.4.1. The aim is to reward steps taken to minimise reductions and to encourage an improvement in ecological value. Four credits are available.

4.4.2. The ecological value before and after development is measured, and the *overall change in species per hectare is*:

- Minor negative change: between –9 and –3: 1 credit
- Neutral: between –3 and +3: 2 credits
- Minor enhancement: between +3 and +9: 3 credits
- Major enhancement: greater than +9: 4 credits

4.4.3. Plot 1 consists of semi-improved neutral grassland (100%) with 36 native species. The ecological value of the current site is therefore 36 species.

4.4.4. Plot 2 consists of 1455m² semi-improved neutral grassland with 34 native species, 596m² amenity grassland with 8 native species and 297m² hedgerow with 16 native species. The ecological value of the current site is therefore:

(34 x 1455/2348) + (8 x 596/2348) + (16 x 297/2348) = 25.12 species

4.4.5. In order to achieve 1 credit when developed Plot 1 must have a value of 27 species. This will not be possible on the area of land likely to be available for ecological landscaping – if 10% of the plot is landscaped 270 native species would need to be included. Plot 2 would need a post-

construction value of 16.12 species. This is unlikely to be achievable even with retention of the hedgerow and a further 10% of the site as ecological landscaping.

Potential Credits 0

5. APPENDIX 1—SPECIES LISTS

Table 1 – Species List Plot 1 Semi-improved Neutral Grassland (* Species not native)

Scientific Name	Common Name
Agrostis capillaris	Common Bent
Agrostis stolonifera	Creeping Bent
Anchusa arvensis	Bugloss
Arrhenatherum elatius	False Oat-grass
Arctium minus	Lesser Burdock
Artemisia vulgaris	Mugwort
Capsella bursa-pastoris	Shepherd's-purse
Cirsium arvense	Creeping Thistle
Conium maculatum	Hemlock
Dactylis glomerata	Cock's-foot
Festuca rubra	Red Fescue
Galium aparine	Cleavers
Heracleum sphondylium	Hogweed
Holcus lanatus	Yorkshire Fog
Lactuca serriola	Prickly Lettuce
Leontodon autumnalis	Autumn Hawkbit
Lolium perenne	Perennial Rye-grass
*Matricaria discoidea**	*Pineappleweed*
Matricaria recutita	Scented Mayweed
Medicago lupulina	Black Medick
Myosotis arvensis	Field Forget-me-not
Papaver rhoeas	Common Poppy
Plantago lanceolata	Ribwort Plantain
Polygonum aviculare	Knotgrass
Potentilla reptans	Creeping Cinquefoil
Ranunculus repens	Creeping Buttercup
Rumex obtusifollus	Broad-leaved Dock
Salix caprea	Goat Willow
Senecio jacobaea	Ragwort
Sonchus arvensis	Perennial Sow-thistle
Sonchus asper	Prickly Sow-thistle
Sonchus oleraceus	Smooth Sow-thistle
Tanacetum vulgare	Tansy
Taraxacum officinale agg.	Dandelion
Trifolium pratense	Red Clover
Urtica dioica	Nettle
Vicia sativa	Common Vetch
Number of Native Species	36

Table 2 – Species List Plot 2 Semi-improved Neutral Grassland (* Species not native)

Scientific Name	Common Name
Agrostis stolonifera	Creeping Bent
Arrhenatherum elatius	False Oat-grass
Artemisia vulgaris	Mugwort
Calystegia sepium	Hedge Bindweed
Chenopodium album	Fat Hen
Cirsium arvense	Creeping Thistle

Cirsium vulgare	Spear Thistle
Convolvulus arvensis	Hedge Bindweed
Dactylis glomerata	Cock's-foot
Festuca rubra	Red Fescue
Holcus lanatus	Yorkshire Fog
Hordeum murinum	Wall Barley
Lactuca serriola	Prickly Lettuce
Leontodon autumnalis	Autumn Hawkbit
Lolium perenne	Perennial Rye-grass
Lotus corniculatus	Bird's-foot Trefoil
Medicago lupulina	Black Medick
Persicaria maculosa	Redshank
Phleum pratense	Timothy
Plantago lanceolata	Ribwort Plantain
Ranunculus repens	Creeping Buttercup
Rumex acetosa	Sorrel
Rumex crispus	Curled Dock
Rumex obtusifolius	Broad-leaved Dock
Senecio jacobaea	Ragwort
Senecio squalidus*	Oxford Ragwort
Sonchus asper	Prickly Sow-thistle
Sonchus oleraceus	Smooth Sow-thistle
Stachys sylvatica	Hedge Woundwort
Symphytum x uplandicum*	Russian Comfrey
Taraxacum officinale agg.	Dandelion
Trifolium pratense	Red Clover
Trifolium repens	White Clover
Tussilago farfara	Colt's-foot
Urtica dioica	Nettle
Vicia sativa	Common Vetch
Number of Native Species	34

Table 3 – Species List Plot 2 Amenity Grassland (* Species not native)

Scientific Name	Common Name
Bellis perennis	Daisy
Holcus lanatus	Yorkshire Fog
Lolium perenne	Perennial Rye-grass
Plantago major	Greater Plantain
Plantago lanceolata	Ribwort Plantain
Poa annua	Annual Meadow-grass
Taraxacum officinale agg.	Dandelion
Trifolium repens	White Clover
Number of Native Species	8

Table 4 – Species List Plot 2 Hedgerow (* Species not native)

Scientific Name	Common Name
Acer pseudoplatanus*	Sycamore
Anthriscus sylvestris	Cow Parsley
Arrhenatherum elatius	False Oat-grass
Calystegia sepium	Hedge Bindweed
Cirsium arvense	Creeping Thistle
Corylus avellana	Hazel

Crataegus monogyna	Hawthorn
Elytrigia repens	Common Couch
Fraxinus excelsior	Ash
Galium aparine	Cleavers
Holcus lanatus	Yorkshire Fog
Prunus spinosa	Blackthorn
Rubus fruticosus agg	Bramble
Rumex obtusifolius	Broad-leaved Dock
Sambucus nigra	Elder
Taraxacum officinale agg.	Dandelion
Urtica dioica	Nettle
Number of Native Species	16

6. APPENDIX 2—EVALUATION CRITERIA

6.1. Guidelines for ecological evaluation and the assessment of impacts have been published by Institute of Environmental Assessment (1995) and the Institute of Ecology and environmental Management (Regini 2000 and IEEM 2002).

6.1. Legislative Framework

6.1.1. Species, communities or habitats receiving legal protection under UK or EC law have high importance on national (and international) scales.

6.1.2. Species with special protection under UK law are listed on the schedules of the Wildlife and Countryside Act 1981 and amendments. The act also gives rise to statutory site designations i.e. National Nature Reserves, Sites of Special Scientific Interest, Areas of Special Protection for Birds, and orders e.g. Limestone Pavement Orders.

6.1.3. Species, communities or habitats requiring protection under EC law are listed on schedules I and II (whose conservation requires the designation of Special Areas of Conservation), IV (species in need of strict protection) and V (species whose exploitation may be subject to management measures) of the EC Directive on the Conservation of Habitats and Wild Fauna and Flora (92/43/EEC). The enabling legislation for the UK is the Conservation (Natural Habitat, &c) Regulations 1994. Species may also be scheduled under Appendix 1 of the Convention on the Conservation of European Wildlife and Natural Heritage 1979 (Bern Convention).

6.1.4. Other sites of international importance designated under international obligations include Biosphere Reserves (UNESCO Man and Biosphere Programme), Ramsar Sites (Convention on Wetlands of International Importance especially as Wildfowl Habitat 1971) and Special Protection Areas (EC Wild Birds Directive 79/409).

6.2. UK Site Designations

6.2.1. Sites of national importance include the statutorily designated Sites of Scientific Interest (SSSI) and National Nature Reserves (NNRs).

6.2.2. Lower levels of importance attach to locally designated sites such as those non-statutory site designations applied by Local Authorities or Wildlife Trusts e.g. Sites of Importance for Nature Conservation (SINC's or equivalent) or Local Nature Reserves designated under the National Parks and Access to the Countryside Act 1949. Such sites may be

considered to be of High Local Importance i.e. important at the county or metropolitan level (Regini 2000).

6.3. Rarity of Species and Habitats

6.3.1. The British Red Data Book for vascular plants (Perring and Farrell 1983) lists 317 species or subspecies as extinct, endangered, vulnerable and rare. Nationally rare species are defined as occurring in 1-15 10km squares of the national grid in Britain, nationally scarce species occurring in 16 - 100 10km squares. The presence of a breeding population of any nationally rare species is of national importance whereas a breeding population of a nationally scarce species is of regional importance. Assemblages of 2 or more species may increase the importance of a site further.

6.3.2. Regional rarities are defined as occurring in 15 or fewer localities or 1km squares in a former Nature Conservancy Council region (NCC 1989).

6.3.3. Biodiversity: The UK Steering Group Report contains a "Long List" of key species in the UK that fall into 1 or more of the following categories: threatened endemics or globally threatened; where the UK holds greater than 25% of the world population; where numbers or range have declined by more than 25% in the last 25 years; nationally rare species; and statutorily protected species. Presence of viable populations of such species may be of high importance.

6.3.4. County floras and biodiversity action plans, or district action plans may identify species that are rare at the county or district level. Viable populations will therefore have conservation importance in these contexts.

6.3.5. Further information on species rarity may be found in Scarce Plants in Britain (Stewart et al 1994), the Atlas of the British Flora (Perring and Walters 1962) and subsequent revisions and the New Atlas of the British and Irish Flora (Preston et al 2002).

6.3.6. Biodiversity: The UK Steering Group Report has identified a number of key habitats under the following criteria: those for which the UK has international obligations; rare habitats or those with high rates of decline; functionally critical habitats (marine areas); and habitats that are important for key species. Sites containing good examples of viable areas of any key habitat may be considered nationally important.

6.3.7. Importance may be attached to plant community types defined in the National Vegetation Classification (Rodwell 1991 etc) that are also

described as rare, declining or with restricted distributions or are identified as being of particular botanical importance (NCC 1989).

6.4. Criteria for Overall Site Evaluation

6.4.1. The accepted criteria for site evaluation are set out by Ratcliffe (1977) in a Nature Conservation Review and are also explained in Guidelines for the Selection of Biological SSSI's (NCC 1989). The principal criteria are briefly outlined below:

6.4.2. **Naturalness.** Truly natural habitats are valued highly but are rare in Britain and most sites are modified and semi-natural at best. Physical habitat modifications vary greatly in their impact, some being beneficial whilst others are harmful. A greater degree of conformity of a particular community or site with semi-natural rather than highly modified vegetation types in the National Vegetation Classification and the absence of species indicating disturbance are likely to lead to attachment of higher importance. However, note that communities that appear to be intermediate between semi-natural NVC types are not necessarily of lesser quality.

Size. The area of a site or habitat judged to be viable varies greatly between different habitat types and with factors such as the condition of the habitat, the shape of the habitat area and surrounding land use. In addition, the territorial requirements of particular species within the site/habitat and habitat management factors may need consideration.

In general, larger sites or areas of habitat tend to be valued more highly because of the greater population sizes and hence more robust populations of the species within them; the potential for increased site or habitat diversity and hence greater species-richness over a larger area; and a reduced importance of edge effects (pollution drift, habitat degradation/change for other reasons at the site edge) if the site is block rather than ribbon shaped. Small sites become increasingly important in areas of little semi-natural habitat.

Rarity. Criteria for rarity of species and habitats are outlined above. The scarcer the habitat or species then the higher the level of importance attached.

Diversity. Diversity tends to be valued positively as it increases. At the phytosociological level, some habitats are more species-rich than others and so have a higher value, provided that the richness does not involve non-native species. Some plant communities are intrinsically more

species-rich than others so comparisons should only be made between the same community type.

The standard of floristic diversity is guided by the floristic tables within the National Vegetation Classification (NVC) (Rodwell 1991 etc). A community having more than 75% of the total plant species list for its type in the NVC would be rated very highly. Diversity of different communities within a vegetation formation (e.g. woodland) may also be rated highly as may structural diversity (e.g. rides, glades and differing age structures or canopy layering in woodland). Habitat diversity across a site may also increase its importance.

Fragility. Fragility is a measure of the intrinsic sensitivity of nearly all natural and semi-natural habitats and species to human impact. It is the fragility of such habitats and species which causes them to be more highly valued than any of the artificial substitutes which replace them through human activity; and the greater their fragility the greater their value. Fragility is therefore clearly related irreplaceability or non-recreatability. Re-creation of habitats that have taken centuries to develop, sometimes with centuries of traditional management, is impossible to the full extent of their former complexity.

Typicalness. Typicalness is an indication of how characteristic the features of a site are compared to its particular ecosystem. It is intended as a guard against designation of those sites with unusual features as being always the most important.

Position in an Ecological/Geographical Unit. This is a landscape ecological criteria designed to identify sites or habitats which may be important to maintaining the viability of a larger group thereof; or which is essential in maintaining the population of a species with a large territory spanning several sites; or is one of a number of sites important to a metapopulation of a species in fragmented landscapes; or may be important in a wildlife corridor or network of habitat patches.

6.5. Amenity Value

6.5.1. The amenity value of a site in ecological terms is generally seen as its value for the study or quiet enjoyment of wildlife. Sites with high intrinsic appeal and good access are therefore regarded as important in this context. Also important are issues such as site safety, proximity to schools and population centres and site management difficulties. Less emphasis is placed on the criteria outlined in section 9.1.4 in such situations.

6.6. Ecological Importance Summary Table

6.6.1. The following table has slightly modified from Regini (2000). Its definitions are adopted in this report. Where species, habitats or sites occur in more than one category, the highest level of importance is applicable. Sites that meet the criteria for a particular designation are afforded the level of importance corresponding to that designation whether or not they are *actually designated.*

Table 5—Ecological Importance Summary Table

Level of Value	Examples
International	An internationally designated site or candidate site (SPA, pSPA, SAC, cSAC, pSAC , Ramsar site, Biogenetic Reserve). A viable area of a habitat type listed in Annex I of the Habitats Directive, or smaller areas of such habitat which are essential to maintain the viability of a larger whole. Any regularly occurring population of an internationally important species, which is threatened or rare in the UK. i.e. it is a UK Red Data Book species or listed as occurring in 15 or fewer 10km squares in the UK (categories 1 and 2 in the UK BAP) or of uncertain conservation status or of global conservation concern in the UK BAP. A regularly occurring, nationally significant population of any internationally important species. Also a regularly occurring and nationally significant number of an internationally important species during a critical phase of its life cycle.
National	*A nationally designated site (SSSI, ASSI, NNR, Marine Nature Reserve) or a discrete area, which* meets the published selection criteria for national designation (e.g. SSSI selection guidelines). A viable area of a priority habitat identified in the UK BAP, or of smaller areas of such habitat which are essential to maintain the viabillty of a larger whole. Any regularly occurring population of a nationally important species which is threatened or rare in the region or county (see local BAP). A regularly occurring, regionally or county significant population of any nationally important species. Also a regularly occurring and regionally or county significant number of a nationally important species during a critical phase of its life cycle.
Regional	Viable areas of key habitat identified in the Regional BAP or smaller areas of such habitat which are essential to maintain the viability of a larger whole; Viable areas of key habitat identified as being of Regional value in the appropriate Natural Area profile; Any regularly occurring, locally significant population of a species listed as being nationally scarce which occurs in 16-100 10km squares in the UK or in a Regional BAP or relevant Natural Area on account of its regional rarity or localisation; A regularly occurring, locally significant number of a regionally important species during a critical phase of its life cycle; Sites which exceed the County-level designations but fall short of SSSI selection guidelines, where these occur.
County / Metropolitan	Semi-natural ancient woodland greater than 0.25 ha; County/Metropolitan sites and other sites which meet the published ecological selection criteria for designation, including Local Nature Reserves selected on County / metropolitan; A viable area of habitat identified in County BAP; Any regularly occurring, locally significant population of a species which is listed in a County/Metropolitan "red data book" or BAP on account of its regional rarity or localisation; A regularly occurring, locally significant number of a County/Metropolitan important species during a critical phase of its life cycle.
District / Borough	Semi-natural ancient woodland smaller than 0.25 ha; Areas of habitat identified in a sub-County (District/Borough) BAP or in the relevant Natural Area profile;

	Local Nature Reserves selected on District/ Borough criteria Sites/features that are scarce within the District/Borough or which appreciably enrich the District/Borough habitat resource; A diverse and/ or ecologically valuable hedgerow network; A population of a species that is listed in a District/Borough BAP because of its rarity in the locality or in the relevant Natural Area profile because of its regional rarity or localisation; A regularly occurring, locally significant number of a District / Borough important species during a critical phase of its life cycle.
Parish / Neighbourhood	Areas of habitat considered to appreciably enrich the habitat resource within the context of the Parish or neighbourhood, e.g. species-rich hedgerows. Local Nature Reserves selected on Parish criteria.
Negligible	Low grade, widespread and common habitats.

7. APPENDIX 3—PLANTING SELECTION SCHEDULE

SPECIES	COMMON NAME	SIZE	ROOT CONDN

Extra-Heavy Standard tree planting: 14-**16cm girth;** pits 1000x1000x600mm
backfilled with 3 parts topsoil mixed with 1part peat-free planting compost and 7no. 15gm 15+9+9+3 2-yr-effective
controlled-release fertiliser tablets; double
stake, crossbar and ties

Acer campestre	Field maple	425-600cm ht; 3x; min. 5	B
Acer campestre	Field maple	425-600cm ht; 3x; min. 5	C; 75L
Acer platanoides 'Emerald Queen'	Norway maple var.	425-600cm ht; 3x; min. 5	B
Acer platanoides 'Emerald Queen'	Norway maple var.	425-600cm ht; 3x; min. 5	C; 75L
Betula pendula	Silver birch	425-600cm ht; 3x; min. 5	RB
Betula pendula	Silver birch	425-600cm ht; 3x; min. 5	C; 75L
Betula utilis jacquemontii	Himalayan birch	425-600cm ht; 3x; min. 5	RB
Betula utilis jacquemontii	Himalayan birch	425-600cm ht; 3x; min. 5	C; 75L
Carpinus betulus	Hornbeam	425-600cm ht; 3x; min. 5	B
Carpinus betulus	Hornbeam	425-600cm ht; 3x; min. 5	C; 75L
Fraxinus excelsior	Ash	425-600cm ht; 3x; min. 5	B
Fraxinus excelsior	Ash	425-600cm ht; 3x; min. 5	C; 75L
Prunus avium	Wild cherry	425-600cm ht; 3x; min. 5	B
Prunus avium	Wild cherry	425-600cm ht; 3x; min. 5	C; 75L
Sorbus aria 'Lutescens'	Whitebeam var.	425-600cm ht; 3x; min. 5	B
Sorbus aria 'Lutescens'	Whitebeam var.	425-600cm ht; 3x; min. 5	C; 75L
Sorbus aucuparia	Rowan	425-600cm ht; 3x; min. 5	B
Sorbus aucuparia	Rowan	425-600cm ht; 3x; min. 5	C; 75L
Tilia cordata 'Green Spire'	Small-leaved lime var.	425-600cm ht; 3x; min. 5	B
Tilia cordata 'Green Spire'	Small-leaved lime var.	425-600cm ht; 3x; min. 5	C; 75L

Selected Standard tree planting: **10-12cm girth;** pits 1000x1000x600mm
backfilled with 3 parts topsoil mixed with 1part peat-free planting compost and 7no. 15gm 15+9+9+3 2-yr-effective
controlled-release fertiliser tablets; double
stake, crossbar and ties

Acer campestre	Field maple	300-350cm ht; 2x; min. 4	B
Acer campestre	Field maple	300-350cm ht; min. 4	C; 40L
Acer platanoides 'Emerald Queen'	Norway maple var.	300-350cm ht; 2x; min. 4	B
Acer platanoides 'Emerald Queen'	Norway maple var.	300-350cm ht; min. 4	C; 25L

SPECIES	COMMON NAME	SIZE	ROOT CONDN
Betula pendula	Silver birch	300-350cm ht; 2x; min. 4	RB
Betula pendula	Silver birch	300-350cm ht; min. 4	C; 25L
Betula utilis jacquemontii	Himalayan birch	300-350cm ht; 3x; feathered; min. 4	RB
Betula utilis jacquemontii	Himalayan birch	300-350cm ht; feathered; min. 4	C; 25L
Carpinus betulus	Hornbeam	300-350cm ht; 2x; min. 4	B
Carpinus betulus	Hornbeam	300-350cm ht; min. 4	C; 25L
Fraxinus excelsior	Ash	300-350cm ht; 2x; min. 4	B
Fraxinus excelsior	Ash	300-350cm ht; min. 4	C; 25L
Prunus avium	Wild cherry	300-350cm ht; 2x; min. 4	B
Prunus avium	Wild cherry	300-350cm ht; min. 4	C; 25L
Sorbus aria 'Lutescens'	Whitebeam var.	300-350cm ht; 2x; min. 4	B
Sorbus aria 'Lutescens'	Whitebeam var.	300-350cm ht; min. 4	C; 25L
Sorbus aucuparia	Rowan	300-350cm ht; 2x; min. 4	B
Sorbus aucuparia	Rowan	300-350cm ht; min. 4	C; 25L
Tilia cordata 'Green Spire'	Small-leaved lime var.	300-350cm ht; 2x; min. 4	B
Tilia cordata 'Green Spire'	Small-leaved lime var.	300-350cm ht; min. 4	C; 25L

Feathered tree planting: pits 600x600x600mm backfilled with 3parts topsoil mixed with 1part peat-free planting compost
and 5no. 15gm 15+9+9+3 2-yr-effective fertiliser tablets; single short stake and ties.

Alnus glutinosa	Common alder	175-200cm ht; 2x; min. 5	B
Alnus glutinosa	Common alder	175-200cm ht; min. 5	C; 10L
Betula pendula	Silver birch	175-200cm ht; 2x; min. 5	B
Betula pendula	Silver birch	175-200cm ht; min. 5	C; 10L
Fagus sylvatica	Beech	175-200cm ht; 2x; min. 5	B
Fagus sylvatica	Beech	175-200cm ht; min. 5	C; 7.5L
Populus alba	White poplar	175-200cm ht; 2x; min. 5	B
Populus alba	White poplar	175-200cm ht; min. 5	C; 10L
Prunus padus	Bird cherry	175-200cm ht; 2x; min. 5	B
Prunus padus	Bird cherry	175-200cm ht; min. 5	C; 10L
Quercus robur	English oak	175-200cm ht; 2x; min. 5	B
Quercus robur	English oak	175-200cm ht; min. 5	C; 10L
Sorbus aucuparia	Rowan	175-200cm ht; 2x; min. 5	B
Sorbus aucuparia	Rowan	175-200cm ht; min. 5	C; 10L
Tilia cordata	Small-leaved lime	175-200cm ht; 2x; min. 5	B
Tilia cordata	Small-leaved lime	175-200cm ht; min. 5	C; 10L

SPECIES	COMMON NAME	SIZE	ROOT CONDN
Transplant structure planting (native trees/shrubs): pits 100x100x100mm backfilled with 3parts topsoil mixed with 1part peat-free planting compost and 2no. 15gm 15+9+9+3 2-yr-effective *controlled-release fertiliser tablets*			
Acer campestre	Field maple	40-60cm; 1+1	B
Acer campestre	Field maple	40-60cm	C; 2L
Alnus glutinosa	Coimmon alder	40-60cm; 1+1	B
Alnus glutinosa	Coimmon alder	40-60cm	C; 2L
Betula pendula	Silver birch	40-60cm; 1+1	B
Betula pendula	Silver birch	40-60cm	C; 2L
Carpinus betulus	Hornbeam	40-60cm; 1u1	B
Carpinus betulus	Hornbeam	40-60cm	C; 2L
Cornus sanguinea	Common *dogwood*	40-60cm; 1+1; branched; *min. 2*	B
Cornus sanguinea	Common dogwood	40-60cm; branched; min. 3	C; 2L
Corylus avellana	Hazel	40-60cm; 1+1; branched; min. 2	B
Corylus avellana	Hazel	40-60cm; branched; min. 2	C; 2L
Crataegus monogyna	Hawthorn	40-60cm; 1+1; branched; min. 2	B
Crataegus monogyna	Hawthorn	40-60cm; branched; min. 2	C; 2L
Fraxinus excelsior	Ash	40-60cm; 1u1	B
Fraxinus excelsior	Ash	40-60cm	C; 2L
Ilex aquifolium	Holly	40-60cm; leader+laterals	C; 2L
Pinus sylvestris	Scots pine	30-40cm; 1+2	B
Pinus sylvestris	Scots pine	30-40cm; 1+2; leader+laterals	C; 2L
Prunus spinosa	Blackthorn	40-60cm; 1+1; branched; min. 2	B
Prunus spinosa	Blackthorn	40-60cm; branched; min. 3	C; 2L
Rosa canina	Dog rose	40-50cm; 1+0; branched	B
Rosa canina	Dog rose	Branched; min. 3	C; 2L
Salix caprea	Goat willow	40-60cm; 0/1; branched; min. 2	B
Salix caprea	Goat willow	40-60cm; branched; min. 3	C; 2L
Salix eleagnos	Hoary willow	40-60cm; 0/1; branched; min. 3	B
Salix eleagnos	Hoary willow	40-60cm; branched; min. 3	C; 2L
Sorbus aucuparia	Rowan	40-60cm; 1+1	B
Sorbus aucuparia	Rowan	40-60cm	C; 2L
Symphoricarpos albus	Snowberry	40-60cm; 0/1; branched; min. 2	B
Symphoricarpos albus	Snowberry	40-60cm; branched; min. 2	C; 2L
Viburnum opulus	Guelder rose	40-60cm; 1+1; branched; *min. 2*	B
Viburnum opulus	Guelder rose	40-60cm; branched; min. 3	C; 2L
Extra for spiral rabbit guard and cane			

SPECIES	COMMON NAME	SIZE	ROOT COND N

Specimen shrub planting: pits 450x450x450mm backfilled with 3parts topsoil mixed with 1part peat-free planting compost
and 4no. 15gm 15+9+9+3 2-yr-effective controlled-release fertiliser tablets

Amelanchier lamarkii	*Snowy mespilus*	*80-100cm; branched; min. 6*	C; 10L
Buddleia 'Lochinch'	*Buddleia var.*	*80-100cm; branched; min. 7*	C; 10L
Cortaderia selloanna	Pampas grass		C; 10L
Phormium 'Sundowner'	New Zealand flax var.	Triple crown	C; 10L
Phormium tenax	New Zealand flax	Double crown	C; 10L
Stipa gigantea	Giant oat-grass		C; 10L

Shrub and ground cover planting: *pits 100x100x100mm backfilled with 3parts* topsoil mixed with 1part peat-free planting
compost and 2no. 15gm 15+9+9+3 2-yr-effective controlled-release fertiliser tablets

Berberis thunbergii atropurpurea		30-40cm; branched; min. 5	C; 3L
Bergenia cordifolia			C: 2L
Ceonothus 'Atumnal Blue'		40-60cm; bushy; min. 4	C; 3L
Cornus alba 'Sibirica'		40-60cm; branched; 4	C; 3L
Cotoneaster conspicuus decorus		25-30cm; branched; min. 3	C; 2L
Cotoneaster lacteus		30-40cm; branched; min. 3	C; 2L
Cytisus scoparius		40 – 60cm, 5brks, bushy	C; 2L
Eleagnus x ebbingii		40-60cm; bushy; min. 4	C; 3L
Erica carnea 'Springwood White'		15 – 20cm, Full pot	C; 2L
Escallonia 'Apple Blossom'		40 – 60cm, 4 brks, bushy	C; 3L
Geranium endressii 'Wargrave Pink'		Full pot	C; 2L
Geranium sanguineum		Full pot	C; 2L
Hebe albicans		25-30cm D; bushy; min. 3	C; 2L
Hedera hibernica	Irish ivy	*40-60cm; several shoots; min. 3*	C; 2L
Hypericum calycinum		15 – 20cm, 4 brks, bushy	C; 1L
Lavandula angustifolia'Hidcote'	Lavender	20-30cm; bushy; min. 5	C; 3L
Lonicera nitida 'Maygreen'		20-30cm D; bushy; min. 3	C; 2L
Photinia x fraseri 'Red Robin'		30-40cm; branched; min. 6	C; 3L
Prunus laurocerasus 'Rotundifolia'	Laurel	*40-60cm; bushy; min. 4*	C; 3L
Rosa *rugosa*	Ramanas rose	40-60cm; branched; min. 3	C; 2L
Rosa 'Swany'	ground cover rose var.	Bush; *min. 3*	C; 2L
Santolina chamaecyparissus	Cotton lavender	25-30; bushy; min. 5	C; 2L
Senecio 'Sunshine'		25-30cm; branched; min.	C; 2L

SPECIES	COMMON NAME	SIZE	ROOT CONDN
		3	
Spiraea japonica 'Goldflame'		25-30cm; bushy; min. 5	C; 2L
Vinca minor	Lesser periwinkle		C; 1L