LAND OFF FENN ROAD, TANKERLSEY, BARNSLEY

ECOLOGICAL SURVEY AND ASSESSMENT

(including a preliminary assessment under criterion Eco1 to Eco 4 of the Code for Sustainable Homes scheme)

February 2012

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A SUMMARY

i. This Ecological Appraisal presents an assessment of the ecological, biodiversity and nature conservation status of land at Fenn Road, Tankersley (hereafter referred to as the 'Site'). An ecological survey was required in connection with proposals to develop the Site to housing.

ii. The assessment presents the results of a desktop study and comprehensive walkover survey of the Site carried out in February 2012. The scope of survey undertaken is sufficient to enable the identification and accurate assessment of any potential ecological constraints and opportunities for biodiversity associated with the development proposals.

iii. The ecological survey and evaluation have identified no significant wildlife interests or constraints that would affect the principle of development of the Site. No species-rich or significant habitats are present and no rare or uncommon plant species were recorded.

iv. No UK Biodiversity Action Plan (BAP) Priority Habitats or habitats listed on the Barnsley BAP are present at the Site.

v. No evidence of protected species was detected within the Site. Provided the precautionary recommendations detailed in this report are appropriately implemented the proposals will have no significant adverse effect on protected species or other wildlife.

vi. Guidance is provided to ensure the protection of wildlife and minimise any adverse effects on biodiversity during the construction phase. Specifically, this will comprise retention and protection of the belts of dense trees and shrubs around the Site margins. Where local areas of shrubs and Bramble scrub will be removed to facilitate the construction this will be carried out outside the bird breeding season.

vii. Where feasible and appropriate, opportunities to enhance the biodiversity and nature conservation value of the Site have been identified, and proposals are outlined to sustain and add to biodiversity in conjunction with the development proposals. Recommendations comprise: -

   a. Use of native trees and shrubs and plant species known to be of value to wildlife in the landscape planting;

   b. Conservation management of the retained marginal trees and shrubs by coppicing and selective thinning to promote understorey regeneration;

   c. Installation of eight bird boxes on suitable trees around the Site margins; and,

   d. Lifting of local fences to create a 0.15 to 0.2 metre high gap at the base to ensure wildlife such as Hedgehog can continue to move through the developed site and feed within garden habitats and the Village Green.

viii. The measures outlined in Section 5 of this report work towards full compliance with the key principles of PPS9, the aims and objectives detailed in the publication '*Planning for Biodiversity and Geological Conservation: A Guide to Good Practice',* local planning policy and guidance provided in the UK Biodiversity Action Plan.

ix. Appendix 2 of this report provides a preliminary assessment of the proposals in accord with criterion Eco1 to Eco4 of the Code for Sustainable Homes scheme.

x. Based on the survey information presented in this assessment, it is concluded that the principle of the proposed development at Fenn Road, Tankerlsey is feasible and acceptable in terms of ecological considerations. This conclusion is valid provided that guidance detailed in Section 5 of this report is implemented.

1.0 INTRODUCTION

1.1 ERAP Ltd (Consultant Ecologists) was commissioned by TPM Landscape on behalf of their client Bowker Sadler to carry out an ecological survey and assessment of the land at Fenn Road, Tankersley in February 2012 (hereafter referred to as the 'Site'). The Ordnance Survey grid reference at the centre of the Site is SK 3445 9997.

1.2 The ecological survey was required in connection with a planning application to redevelop the Site for residential purposes.

1.3 The ecological survey will also contribute to the assessment of credits achievable under criterion Eco1 to Eco4 of the Code for Sustainable Homes (C4SH) scheme. A preliminary assessment is presented at **Appendix 2.**

1.4 The scope of ecological surveys undertaken in February 2012 comprised: -

a. A desktop study for known ecological records at the Site and the local area;

b. An Extended Phase 1 Habitat Survey and assessment;

c. Survey and assessment of all habitats for statutorily protected species and other species including Badger, bat species, Barn Owl, Great Crested Newt, Water Vole, bird species and invertebrates;

d. An assessment of the ecological value of the habitats within the Site with the use of the National Vegetation Classification (NVC) and the Ratcliffe criteria (A Nature Conservation Review 1977);

e. The identification of any potential development constraints and the specification of the scope of mitigation and enhancement required in accord with wildlife legislation, planning policy guidance and other relevant guidance; and,

f. Guidance in relation to the measures to be implemented to achieve biodiversity gain and ecological enhancement to comply with the requirements of Planning Policy Statement 9 (PPS9) and the Code for Sustainable Homes scheme.

2.0 METHODOLOGY

2.1 Desktop Study

2.1.1 The following sources of information and ecological records were consulted for information: -

1. MAgiC: A web-based interactive map which brings together geographic information on key environmental schemes and designations, including details of statutory nature conservation sites.

2. National Biodiversity Network (NBN Gateway).

2.2 Vegetation and Habitats

2.2.1 An Extended Phase 1 Habitat Survey of the Site was carried out by Victoria Burrows B.Sc. (Hons), M.Sc. CEnv MIEEM on the 1st February 2012. The weather was dry, sunny and calm (Beaufort Scale 1) with temperature of 1°C at 10.30am. The weather conditions were suitable for a survey of this type.

2.2.2 A vegetation and habitat map was produced for the Site and the immediate surrounding area on a scale of 1:1000 (refer to **Figure 2,** below). The mapping is based on the Joint Nature Conservation Committee Phase 1 Habitat Survey methodology (JNCC 2010) with minor adjustments to illustrate and examine the habitats with greater precision.

2.2.3 The principal and constant plant species within the Site boundary were determined with estimates of the distribution, ground cover, abundance and constancy of individual species. The estimation of abundance was based on the DAFOR system where D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare, this being a widely used and accepted system employed by ecological surveyors.

2.2.4 All stands of vegetation and habitats were described and evaluated using the National Vegetation Classification (NVC). The NVC provides a systematic and comprehensive analysis of British vegetation and is widely used by Natural England and other wildlife organisations as well as ecological consultants to provide a scientific basis for the description and evaluation of habitats. The NVC provides a reliable framework for nature conservation and land-use planning.

2.2.5 Searches were made for uncommon, rare and statutorily protected plant species, those species listed as protected in the *Wildlife and Countryside Act 1981* and indicators of important and uncommon plant communities. All plant nomenclature follows Stace (1991).

2.2.6 Searches were carried out for the presence of invasive species, including those listed on the revised (April 2010) Schedule 9 of the *Wildlife and Countryside Act 1981* including Japanese Knotweed, Indian Balsam and Giant Hogweed.

2.3 Animal Life

Badger

2.3.1 A thorough search for Badger activity was carried out within the Site and throughout the adjacent areas of amenity grassland to the north and east.

2.3.2 The search included detailed examination for the following signs of Badger activity: -

a. 'D' shaped sett entrances at least 25cms wide and wider than they are high with large spoil mounds;
b. Discarded bedding at sett entrances (this includes grass and leaves);
c. Scratching posts on shrubs and trees close to a sett entrance;
d. The presence of Badger hairs which are coarse, up to 100mm long with a long black section and a white tip;
e. Dung pit latrines and footprints; and,
f. Trampled pathways through vegetation and beneath fences.

Bat species

Buildings

2.3.3 There are no buildings within the Site.

Trees

2.3.4 All trees on the Site margins were assessed for their suitability for use by roosting bats. This was achieved by searching for crevices and splits in the trunks and branches that could be accessed by bats. The criteria detailed at **Appendix 3** were used to assess the trees.

Water Vole

2.3.5 There are no ditches or watercourses within or adjacent to the Site. No habitats suitable for the support of Water Vole are present. The presence of this species within the Site can be reasonably discounted.

Great Crested Newt and amphibians

2.3.6 No ponds are present in the Site. No ponds were detected in the local area up to a radius of 250 metres during the examination of plans and aerial photographs. The presence of Great Crested Newt within the Site can be reasonably discounted.

Bird species

2.3.7 Bird species observed during the walkover were recorded. All habitats were assessed for their value to support breeding birds.

2.4 Survey Limitations

2.4.1 The survey was carried out outside the typical plant growing season. The dead flower heads of grass and herb species were still evident and it is concluded that a full account of the plant species and habitats present was obtained.

2.4.2 No access restrictions were encountered and all areas of the Site were accessed to enable a thorough inspection.

2.4.3 No significant survey limitations were encountered.

2.5 Evaluation Methodology

2.5.1 The habitats, vegetation and animal life were evaluated with reference to standard nature conservation criteria as described by Ratcliffe (1977) and the Nature Conservancy Council (1989). These are: size (extent); diversity; naturalness; rarity; fragility; typicality; recorded history; position in an ecological or geographical unit; potential value and intrinsic appeal.

2.5.2 Government advice on wildlife, as set out in *Planning Policy Statement 9: Biodiversity and Geological Conservation (PPS9)* has been taken into consideration. The UK and Barnsley Biodiversity Action Plans (BAPs) have been taken into account in the evaluation of the Site.

3.0 RESULTS/REPORT OF SURVEY

3.1 Desktop Study

Designated Sites

3.1.1 There are no national or statutorily designated areas within the Site or within a radius of 2 kilometres from the centre of the Site.

3.1.2 There are no non-statutory designated areas within the Site.

3.2 Vegetation and Habitats: 2011

General Description

3.2.1 The Site covers an area of 0.8 hectares and is located on the corner of Westwood New Road and the A61 (refer to **Figure 1**).

3.2.2 The Site comprises am irregularly shaped field of semi-improved pasture previously grazed by ponies. The grassland is currently unmanaged and has been permitted to grown rank. A small area in the western area of the field is occupied by crushed hardcore colonised by ruderal herbs. A plan illustrating the Site boundary in the context of the surroundings is presented at **Figure 1.**

3.2.3 A timber fence marks the northern boundary of the Site. Beyond this boundary is Glebe Court, an existing residential block, and other residential properties off Fenn Road (refer to **Figure 1**).

3.2.4 Sloping land at the western and southern margins of the Site are occupied by established planted trees and shrubs.

3.2.5 **Figure 2** illustrates the portions of the Site covered by each vegetation type.

Habitats within the Site

Semi-improved grassland

3.2.6 Semi-improved grassland occupies the majority of the Site (refer to **Photo 1 on Figure 3**). The grass dominated sward is currently unmanaged and competitive coarse grass species have established comprising abundant and constant Cock's-foot (*Dactylis glomerata*), Common Couch-grass (*Elytrigia repens*) with Rough Meadow-grass (*Poa trivialis*), Red Fescue (*Festuca rubra*) and Crested Dog's-tail (*Cynosurus cristatus*).

3.2.7 Herbs have only a sparse cover but locally frequent species comprise Yarrow (*Achillea millefolium*), Creeping Buttercup (*Ranunculus repens*) and White Clover (*Trifolium repens*) with occasional Ribwort Plantain (*Plantago lanceolata*) and Common Ragwort (*Senecio jacobaea*).

3.2.8 The grassland is indicative the species-poor MG6a Crested Dog's-tail-Perennial Rye-grass typical sub-community of the NVC which is in transition towards the MG1 False Oat-grass community owing to the absence of recent management. Both of these communities are described in the British Plant Communities: Grassland and Montane Communities Volume 3 (Rodwell 1992) as 'common and widespread within lowland Britain'.

3.2.9 A full plant species list is appended at **Table 1.**

3.2.10 For the purposes of the C4SH assessment 5850m^2 of the Site is occupied by a habitat type typically supporting 6 species.

3.2.11 Approximately 600m^2 of the proposed development Site in the western area of the grassland is occupied by remnant crushed hardcore and a concrete base forming the site of a former stable (refer to **Photo 2 on Figure 3**). The compacted ground area is devoid of any significant vegetation cover with the exception of moss species and sparsely scattered plants of Red Fescue.

Boundary Vegetation

3.2.12 The grassland boundary is marked by a timber post and wire fence (refer to **Photo 3 on Figure 3**). To the west and south of the Site the ground slopes downhill to meet Westwood New Road and the A61 respectively. The slopes are densely planted with established trees and shrubs (refer to **Figure 2**).

3.2.13 Tree and shrub species comprise abundant Hawthorn (*Crataegus monogyna*) with frequent Hazel (*Corylus avellana*), Wild Cherry (*Prunus* sp.), Field Maple (*Acer campestre*), Ash (*Fraxinus excelsior*) and local Blackthorn (*Prunus spinosa*), Beech (*Fagus sylvatica*), Pedunculate Oak (*Quercus robur*), Dog Rose (*Rosa canina*) and Larch (*Larix* sp.). The understorey beneath the trees is sparse owing to the shading from the dense planting. Constant species comprise very locally frequent Bramble (*Rubus fruticosus*), Cow Parsley (*Anthriscus sylvestris*), Red Fescue and Common Mouse-ear (*Cerastium fontanum*).

3.2.14 Approximately 1950m^2 of the planted woody vegetation lies within the footprint of the development Site. A plant species list for this area is appended at **Table 2.**

3.2.15 For the purposes of the C4SH Assessment the 1950m^2 area of the Site covered by this habitat typically supports 7 species.

3.2.16 At the north-eastern boundary of the Site is a public footpath (refer to **Photo 5 on Figure 3**). The north side of the footpath is edged in a species-poor hedgerow of Hawthorns with locally frequent Sycamore (*Acer pseudoplatanus*), Elm species (*Ulmus* sp.) and Elder (*Sambucus nigra*) shrubs. The understory beneath the shrubs is sparse. Cleavers (*Galium aparine*), Common Nettle (*Urtica dioica*), Bramble, Annual Meadow-grass (*Poa annua*) and Hedge Mustard (*Sisymbrium officinale*) occur locally.

3.2.17 A plant species list is appended at **Table 3.** This hedgerow does not meet the criteria to be classed as important in accord with the *Hedgerows Regulations 1997,* refer to **Table 3**.

Invasive Species

3.2.18 No Japanese Knotweed, Indian Balsam or Giant Hogweed or other species listed on Schedule 9 of the *Wildlife and Countryside Act 1981* was detected within the Site or on the Site boundaries during the course of this survey in February 2012

Habitats in the Wider Area

3.2.19 As detailed on **Figures 1 and 2,** appended, the land around the Site is occupied by existing housing and associated amenity grassland.

3.2.20 On the opposite side of Westwood New Lane to the west is an extensive area of plantation woodland.

3.3 Animal Life

Badger

3.3.1 No evidence of Badger activity was recorded within Site. Badger or their habitats will not be affected by the proposals and no further consideration is required.

Bat species

3.3.2 None of the trees support cracks, splits, knot holes or Ivy cover. No opportunities suitable for use by roosting bats were detected. All trees are Category 3 in accord with **Appendix 3** and are assessed to be of negligible value for use by roosting bats.

3.3.3 Bats, particularly Pipistrelle species which are commonly associated with residential areas, are likely to forage over the Site, particularly along the strips of plants trees at the Site margins.

Bird species

3.3.4 Birds associated with the trees and shrubs on the Site boundary in February 2012 comprised Chaffinch, Robin, Blue Tit, Great Tit, Magpie, Greenfinch, Dunnock and Blackbird.

3.3.5 The boundary trees and shrubs are assessed to be suitable for use by nesting birds.

Hedgehog

3.3.6 The grassland and boundary trees and shrubs may be used by visiting Hedgehog, a UK BAP Priority Species. The likely presence of Hedgehog has been taken into consideration in the recommendations at Section 5.4.

4.0 EVALUATION AND ASSESSMENT

4.1 Vegetation and Habitats

4.1.1 None of the habitats within the Site is species-rich or of significant interest in terms of the plant species composition. None of the habitats present are representative of semi-natural habitat. The NVC communities present are typical of the geographical area and conditions present.

4.1.2 No habitats at the Site are representative of UK Biodiversity Action Plan Priority Habitats/Habitats of Principal Importance or are listed on the Barnsley BAP.

4.1.3 No invasive plant species were detected at the Site.

4.1.4 The belts of trees and shrubs around the Site margins are of local ecological value for the wildlife they have the potential to support, refer to Section 4.2. As detailed in Section 5.1 these habitats will be retained and incorporated into the site layout.

4.2 Animal Life

4.2.1 No evidence of protected species was identified within the Site.

4.2.2 The belts of trees and shrubs around the Site margins are suitable for use by breeding birds, including UK BAP Priority Species. A residential development provides an opportunity to enhance the feeding and nesting habitat for garden birds such as Dunnock, Robin, Starling, Song Thrush, Blackbird and Greenfinch, as discussed in Sections 5.2 and 5.5 below.

4.2.3 The habitats within and around the Site are suitable for use by feeding and sheltering Hedgehog, a UK BAP Priority Species. The measures recommended in Section 5.4 will ensure habitats favourable for the continued use by this species are conserved at the Site.

4.3 Assessment

4.3.1 In consideration of the development proposals no significant ecological constraints have been identified.

4.3.2 For the purposes of the Code for Sustainable Homes assessment the Site and Construction Zone are of *low ecological value*.

4.3.3 Provided the measures detailed in Section 5 below are implemented it is considered that the proposals will have *no significant adverse effect* on habitats or wildlife of significant ecological interest.

4.3.4 Section 5 of this report describes the mandatory and precautionary measures to be applied at the Site to ensure compliance with all wildlife legislation, Natural England guidance, PPS9, local planning policy and best practice.

4.3.5 Where possible, opportunities to seek biodiversity gain by appropriate management, habitat creation and landscape planting have been identified and incorporated into the development proposals in accord with the guidance in PPS9 and associated documents and the Code for Sustainable Homes scheme.

4.3.6 The recommendations described in Section 5 are qualified in terms of 'key' recommendations and 'additional' recommendations on **Figure 4** and **Appendix 2** so that they may be considered in accord with Eco 2 of the C4SH assessment, which requires that all key recommendations are implemented, and 30% of all additional recommendations are implemented.

5.0 RECOMMENDATIONS

5.1 Use of Demarcation Fencing and Protection of Surrounding Vegetation

Protection

5.1.1 It is recommended that the trees and shrubs around the Site boundaries comprising the planted trees and shrubs to the west and south are retained and incorporated into the Site layout.

5.1.2 During the construction phase temporary protective demarcation fencing must be used to protect the trees and shrubs to be retained. The fencing must extend outside the canopy of the retained and boundary trees and must remain in position until all plots have been developed to ensure protection is provided throughout the construction phase.

5.1.3 The fencing must be in accord with BS5837: 2005 *Trees in Relation to Construction.*

5.1.4 *A Tree Removals, Retention and Protection Drawing* (reference 1474/02 dated February 2012) has been prepared by TPM Landscape with ecological input from ERAP Ltd.

Management

5.1.5 Selective thinning and coppicing of the planted trees and shrubs to the west and south along the northern boundary (outside the bird breeding season, refer to Section 5.2 below) should be carried out to promote the longevity of the strips of vegetation and to promote light penetration and establishment of the understory species.

5.2 Protection and Conservation of Breeding Birds

Protection of Breeding Birds

5.2.1 All wild birds are protected under the *Wildlife and Countryside Act 1981* while they are breeding. It is mandatory that coppicing and thinning of shrubs and removal of habitats suitable for use by breeding birds is only carried out outside the bird breeding season. The bird breeding season typically extends between March to August inclusive.

5.2.2 If any works that will affect trees and shrubs are scheduled in the bird breeding season it is advised that advice from an ecologist is sought. It may be necessary to carry out a walkover

survey to adequately demonstrate that no breeding birds, active nests, eggs or fledglings are present in the area to be cleared.

5.2.3 If breeding birds are recorded the ecologist will issue guidance in relation to the protection of the nesting birds in conjunction with the scheduled works. This may involve cordoning off an area of the Site until the young birds have fledged.

Conservation and Creation of Nesting Opportunities

5.2.4 Retention of the trees and shrubs at the Site boundary combined with the recommendations for landscape planting (refer to Section 5.5 below) will conserve and create opportunities for use by feeding and nesting birds.

5.2.5 The conservation of the boundary trees and shrubs in conjunction with a residential development provides an opportunity to incorporate features for the attraction of nesting birds such as Great Tit, Blue Tit, Robin, Starling and House Sparrow. The installation of eight bird boxes on suitable trees within the marginal trees and shrubs (refer to **Insert 1**, below) will attract nesting birds.

5.2.6 It is recommended that four woodcrete Schwegler 1B boxes with a 26mm diameter entrance hole and four boxes with a entrance hole diameter of 32mm are installed to provide opportunities for a range of species (refer to **Insert 1**).

5.2.7 Boxes should be installed at a height of at least 4 metre away from cat access and must avoid facing prevailing weather.



Insert 1: Woodcrete Schwegler 1B Bird Box (4 x 26mm hole, 4 x 32mm hole)
Available from www.alanaecology.com

5.2.8 The provision of these features contributes to the achievement of credits under criterion Eco 2 of the Code for Sustainable Homes scheme.

5.3 Foraging Bats

5.3.1 The margins of the extensive woodland to the west of the Site and the trees and shrubs on the Site margins will remain favourable for use by foraging bats.

5.3.2 Any lighting to be used at the Site during construction and operation should be directional and screened where possible.

5.3.3 No excessive street lighting must shine over the boundary trees and shrubs as lighting overspill may deter use by wildlife such as foraging bats and Hedgehog.

5.4 Hedgehog

5.4.1 To encourage use of the residential gardens and the Village Green at the Site by Hedgehog it is recommended that plot boundary fences are lifted in local sections by approximately 0.15 to 0.20 metres above ground. This will be of particularly relevance at the plots that adjoin the existing Glebe Court amenity grassland and those at the eastern end of the Site with connectivity to the existing gardens to the east.

5.4.2 This action will ensure the development Site does not fragment habitats suitable for use by Hedgehog and will aim to prevent Hedgehog from being directed towards the busy A61 road.

5.5 Habitat Creation, Landscape Planting and Ecological Enhancement

5.5.1 PPS9 and local planning policy requires the promotion of opportunities for the incorporation of beneficial biodiversity within the design of a development. In addition to the creation of the provisions for nesting birds and hedgehog as described in Sections 5.2 and 5.4 above, other opportunities to enhance the ecological and biodiversity value of the residential Site are detailed below.

5.5.2 The proposals provide opportunities to create new habitats suitable for the attraction of breeding and feeding passerine birds including UK BAP Priority Species such as Dunnock and Song Thrush. Opportunities to create habitats for the attraction of feeding and breeding invertebrates and other wildlife such as birds will be maximised within the remit of the residential development. The following recommendations have been incorporated into the landscape planting scheme prepared by TPM Landscape (drawing reference 1474/04). This plan is reproduced and presented at **Figure 4.**

Planting within streetscape habitats

5.5.3 In an article published by Land (2004) which detailed the results of transect surveys of garden habitats and the abundance and diversity of bird species present, trees were confirmed to be important features for birds within street landscapes. The importance of the trees was indicated in the field study as the highest percentage of registrations of birds was recorded in gardens with trees. The article demonstrated the importance of the provision of a range of features within residential areas for the attraction of bird species. At this Site it is recommended that small native trees are incorporated into the street landscape planting and gardens of the properties.

5.5.4 It is advised that trees which support blossom and fruit which will attract insects are incorporated into the landscape planting this will aim to encourage foraging bats and birds. suitable species comprise: -

Acer campestre	Field Maple
Corylus avellana	Hazel
Crataegus monogyna	Hawthorn
Ilex aquifolium	Holly
Malus sp.	Crab Apple
Prunus sp.	Cherry species
Prunus spinosa	Blackthorn
Rosa canina	Dog Rose
Sambucus nigra	Elder
Sorbus aucuparia	Rowan
Ulmus glabra	Wych Elm

Planting within gardens

5.5.5 To maximise the biodiversity value of the garden habitats the plant species selection to be used in the front gardens will comprise species known to be of value and benefit to wildlife, particularly invertebrates such as: -

Lavandula	Lavender	Attractive to feeding Bumblebees
Pyracantha	Firethorn	Produces berries in autumn for attraction of feeding birds
Berberis	Berberis	Produces berries in autumn for attraction of feeding birds
Ceanothus	Californian Lilac	Attractive to feeding Bumblebees
Hebe	Hebe	Attractive to feeding Bumblebees and other invertebrates
Mahonia	Mahonia	Early flowering species provides a source of nectar for queen bumblebees
Rosemarinus	Rosemary	Attractive to feeding Bumblebees
Buddleia davidii	Butterfly Bush	Attractive to feeding butterflies.

Management and Maintenance

5.5.6 To ensure the successful establishment of all landscape planting and to promote the long-term conservation of habitats for the attraction of wildlife it is recommended that a long-term management and maintenance plan is prepared for the landscape planting within the Site that lies outside the residential gardens.

5.6 Consideration of the Code for Sustainable Homes scheme

5.6.1 A preliminary assessment of the Site under the Code for Sustainable Homes (C4SH) criteria Eco 1 to Eco 4 is presented at **Appendix 2.**

5.6.2 Based on the assessment presented in this report it is concluded that the following credits are achievable under the CSH scheme.

Table A: *Summary of CSH credits*

Criterion	Credits Available	Credits Achievable	Notes/Prerequisites
Eco 1	1	1	Submission of this Ecological Survey and Assessment report and **Appendix 2**
Eco 2	1	1	Submission of **Appendix 2** detailing all key and additional recommendations made by the Ecologist. Evidence to demonstrate compliance/implementation.
Eco3	1	1	As the Site has been classed to be of *low ecological value* this credit can be award by default.
Eco4	4	2	Implementation of the recommended landscape schedule as prepared by TPM Landscape (Drawing 1474/04) with input from ERAP Ltd (Consultant Ecologists).
TOTAL	**7**	**5**	

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7.0 APPENDIX 1: TABLES AND FIGURES

TABLE 1: Plant species list for the semi-improved grassland

Scientific Name	Common Name	Frequency[1]	Abundance	Species considered to contribute to the typical habitat type
Achillea millefolium	Yarrow	LF	1%	
Anthriscus sylvestris	Cow Parsley	VLF	<1%	
Arctium minus	Lesser Burdock	VL	<1%	
Cerastium fontanum	Common Mouse-ear	VLF	<1%	
Cirsium arvense	Creeping Thistle	O	<1%	
Cirsium vulgare	Spear Thistle	O	<1%	
Cynosurus cristatus	Crested Dog's-tail	LA/F*	5%	✓
Dactylis glomerata	Cock's-foot	A/LVA*	30%	✓
Elytrigia repens	Common Couch-grass	A/LVA*	5%	✓
Epilobium hirsutum	Great Willowherb	VLF	<1%	
Festuca rubra	Red Fescue	F/LVA*	15%	✓
Fraxinus excelsior	Ash saplings	VL	<1%	
Holcus lanatus	Yorkshire Fog	F/LA*	5%	✓
Lolium perenne	Perennial Rye-grass	F/LA	3%	
Phleum pratensis	Timothy	VLA	1%	
Plantago lanceolata	Ribwort Plantain	O	<1%	
Poa trivialis	Rough Meadow-grass	A/VA*	25%	✓
Ranunculus acris	Meadow Buttercup	R	<1%	
Rubus fruticosus	Bramble	VL	<1%	
Rumex acetosa	Common Sorrel	VLF	<1%	
Rumex obtusifolius	Broad-leaved Dock	O	<1%	
Senecio jacobaea	Common Ragwort	O	<1%	
Taraxacum officinale	Dandelion	O	<1%	
Trifolium repens	White Clover	LVF	1%	
Urtica dioica	Common Nettle	R	<1%	
Vicia cracca	Tufted Vetch	VLF	<1%	
Vicia sativa	Common Vetch	O	<1%	
			Typical no. of plant species in the habitat type =	**6 species**

[1]**Key to DAFOR**: D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, V=Very, L=Local and *denotes a constant species

TABLE 2: Plant species list for the trees and shrubs on sloping ground around the Site margins

Scientific Name	Common Name	Frequency[1]	Abundance	Species considered to contribute to the typical habitat type
Woody Species				
Acer campestre	Field Maple	LF	5%	
Corylus avellana	Hazel	LF	5%	
Crataegus monogyna	Hawthorn	F/A*	20%	✓
Fagus sylvatica	Beech	O	<1%	
Fraxinus excelsior	Ash	F/LA	15%	✓
Ilex aquifolium	Holly	LF	5%	✓
Larix sp.	Larch species	F	5%	✓
Prunus sp.	Cherry species	O	<1%	
Prunus spinosa	Blackthorn	F	5%	✓
Quercus robur	Pedunculate Oak	F	5%	✓
Rosa canina	Dog Rose	O	1%	
Sambucus nigra	Elder	F	5%	✓
Herbs and grasses				
Anthriscus sylvestris	Cow Parsley	LF	1%	
Cerastium fontanum	Common Mouse-ear	O	<1%	
Festuca rubra	Creeping Fescue	LF	1%	
Rubus fruticosus	Bramble	F	5%	
Taraxacum officinale	Dandelion	O	<1%	
		Typical no. of plant species in the habitat type =		**7 species**

[1]**Key to DAFOR**: D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, V=Very, L=Local and *denotes a constant species

TABLE 3: Plant species list for the Hawthorn hedgerow (Hedgerow 1) at the north-eastern edge of the Site

Scientific Name	Common Name	Freq..[1]	Cover
Woody Species			
Acer pseudoplatanus	Sycamore	LF	2%
Crataegus monogyna	Hawthorn	A*	90%
Sambucus nigra	Elder	F*	8%
Ulmus sp.	Elm species	VLF	<1%
Understorey			
Galium aparine	Cleavers	VLF	<1%
Lolium perenne	Perennial Rye-grass	VLF	<1%
Poa annua	Annual Meadow-grass	VLF	<1%
Rubus fruticosus	Bramble	R	<1%
Sisymbrium officinale	Hedge Mustard	VLA	<1%
Urtica dioica	Common Nettle	VL	<1%
Hedgerow continuity		100%	
Length of Hedgerow		120 metres	
Height of Hedgerow		2 to 4 metres	
Hedgebank present?		No	
Ditch present?		No	
Presence of a parallel hedgerow?		No	
Number of trees		1 (Sycamore)	
Management		Cut on path side	
Total number of woody species		4	
Number of woody species listed in *The Hedgerows Regulations 1997*		3	
No. of woody species in 1st 30m section		2	
No. of woody species in 2nd 30m section		2	
No. of woody species in 3rd 30m section		N/A	
Average number of woody species		2	
No. of woodland herbs		0	
NVC community		W21	
Protected species present		No	
Important in accord with *The Hedgerows Regulations 1997*?		**No**	

[1]**Freq..=** Frequency.
Key to DAFOR: D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, V=Very, L=Local and *denotes a constant species



Project Name:

Fenn Road, Tankersley

Title:

Google Earth Image to show Site and Surrounds

Scale:	Drawing No.	Date:
NTS	Figure 1	Feb. 2012

Central Grid Ref:	Reference No.
SK 3445 9997	ERAP Ltd. 2012_019

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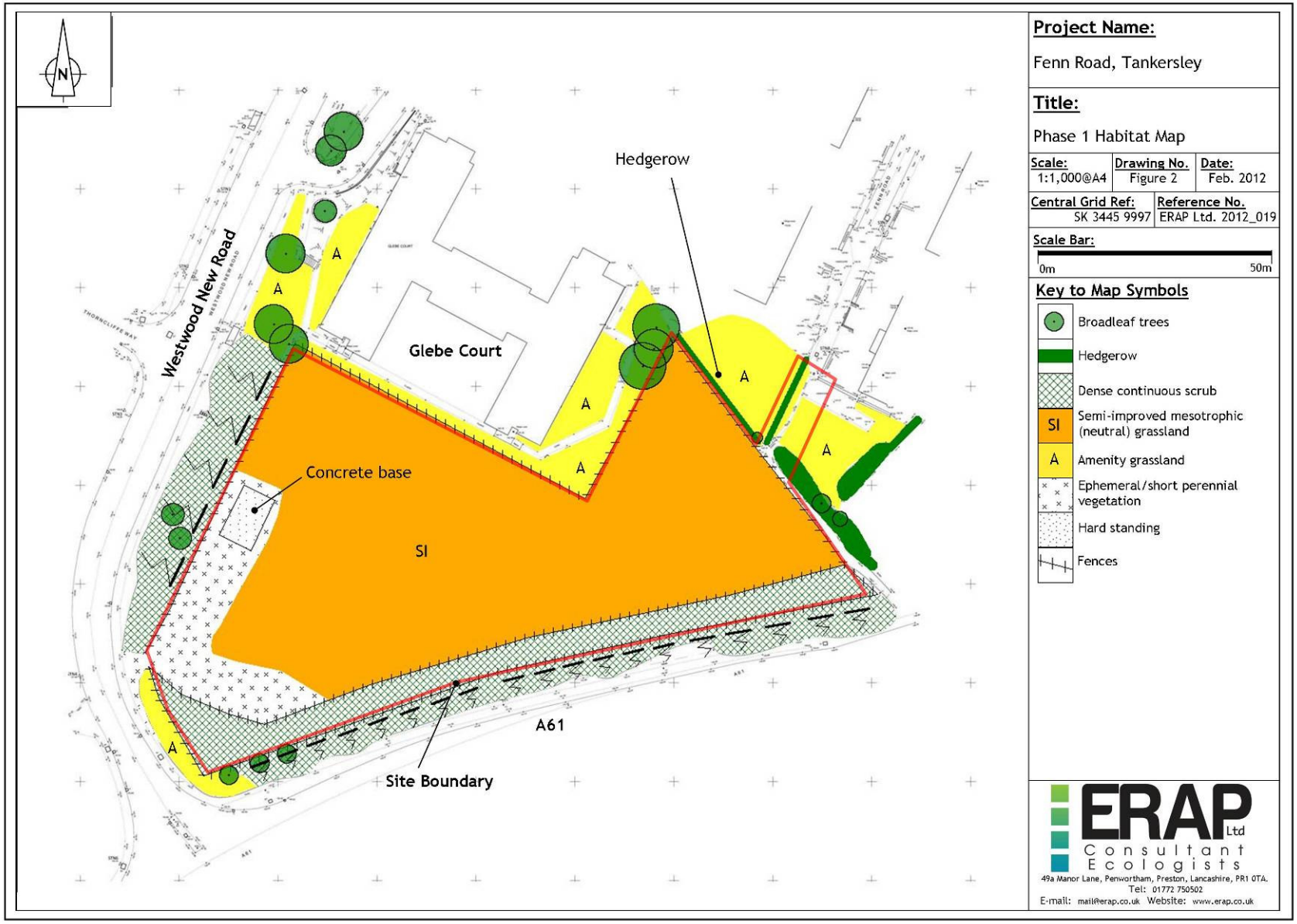

N
Hedgerow
Westwood New Road
Glebe Court
A
Concrete base
SI
A61
Site Boundary
Project Name:
Fenn Road, Tankersley
Title:
Phase 1 Habitat Map
Scale: 1:1,000@A4
Drawing No. Figure 2
Date: Feb. 2012
Central Grid Ref: SK 3445 9997
Reference No. ERAP Ltd. 2012_019
Scale Bar:
0m
50m
Key to Map Symbols
Broadleaf trees
Hedgerow
Dense continuous scrub
SI Semi-improved mesotrophic (neutral) grassland
A Amenity grassland
Ephemeral/short perennial vegetation
Hard standing
Fences
ERAP Ltd
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Tel: 01772 750502
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Photo 1: Unmanaged, semi-improved grassland in construction zone



Photo 2: Crushed hardcore area (Glebe Court in background)



Photo 3: Semi-improved grassland and planted trees and shrubs along southern boundary



Photo 4: Trees and shrubs along A61 (to be retained)



Photo 5: Hedgerow and public footpath at north-eastern edge of site

Project Name: Fenn Road, Tankerlsey		
Title: Photographs		
Scale: NTS	**Drawing No.** Figure 3	**Date:** Feb. 2012
Central Grid Ref: SK 3445 9997	**Reference No.** ERAP Ltd 2012_019	

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Consultant Ecologists
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FIGURE 4: Extract of TPM Landscape drawing 1474/04 with all Ecological Recommendations

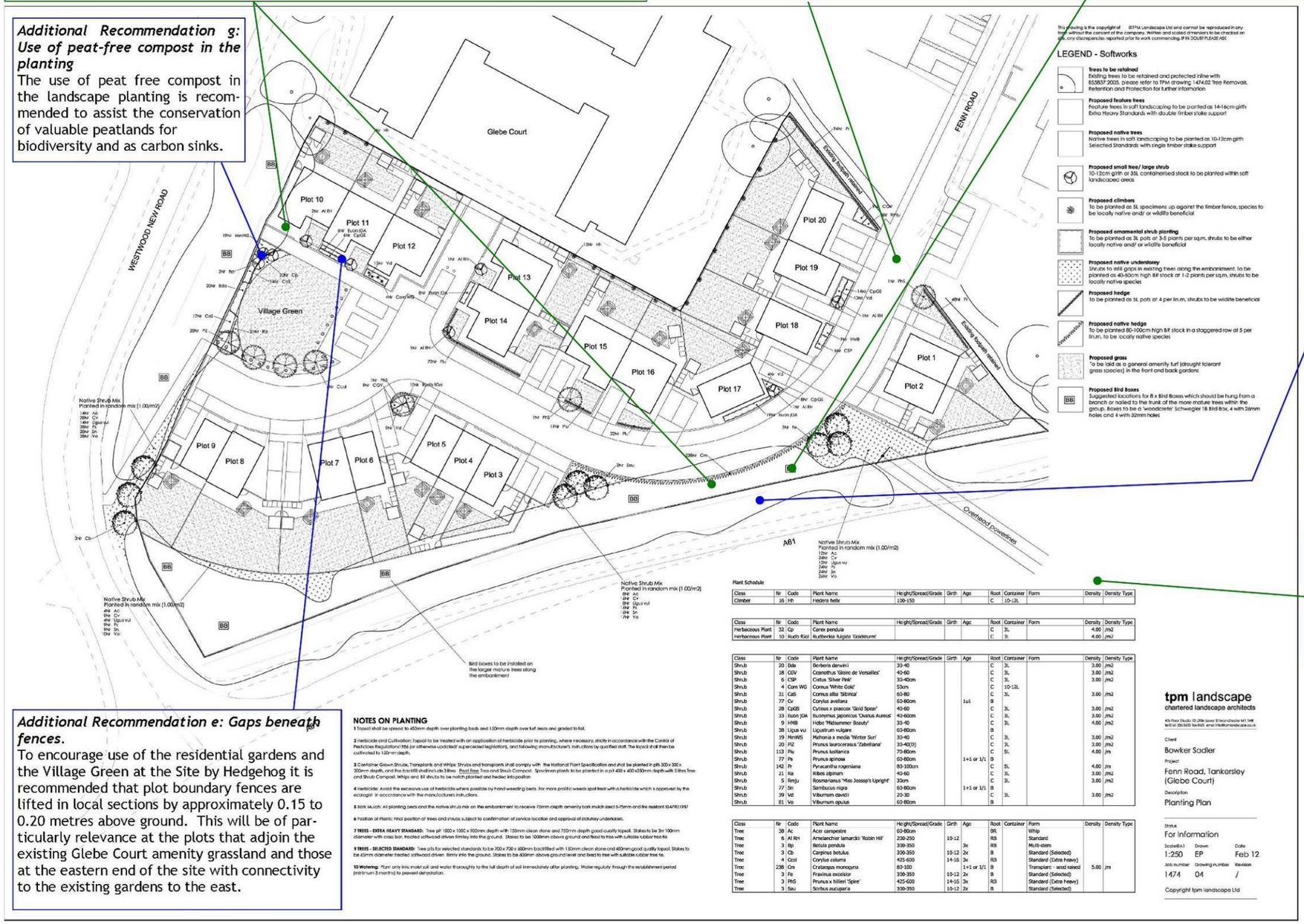
Key Recommendation a: Protection of trees and shrubs on Site margins Trees and shrubs around the Site boundaries comprising the planted trees and shrubs to the west and south will be retained and incorporated into the Site layout.

Protective fencing in accord with BS5837: 2005 Trees in Relation to Construction will be installed refer to TPM Landscape Drawing 1474/02

Key Recommendation b: Protection of breeding birds.
Vegetation removal and pruning/management will not be carried out in the bird breeding season unless it is demonstrated that no nesting birds are present. The breeding bird season typically extends between March and August inclusive.

Key Recommendation c: Bird Boxes
Provision of eight woodcrete Schwegler 1B bird boxes on suitable trees on the site margins. Four with an entrance hole diameter of 26mm and four with a hole of 32mm diameter
— see annotation BB

Additional Recommendation g: Use of peat-free compost in the planting
The use of peat free compost in the landscape planting is recommended to assist the conservation of valuable peatlands for biodiversity and as carbon sinks.



Additional Recommendation f: Management of trees and shrubs.
Selective thinning and coppicing of the planted trees and shrubs to the west and south along the northern boundary (outside the bird breeding season) should be carried out to promote the longevity of the strips of vegetation and to promote light penetration and establishment of the understory species.

Key Recommendation d: Landscape planting using native species and species known to be of value for the attraction of wildlife.

See Planting Schedule.

Additional Recommendation e: Gaps beneath fences.
To encourage use of the residential gardens and the Village Green at the Site by Hedgehog it is recommended that plot boundary fences are lifted in local sections by approximately 0.15 to 0.20 metres above ground. This will be of particularly relevance at the plots that adjoin the existing Glebe Court amenity grassland and those at the eastern end of the site with connectivity to the existing gardens to the east.

NOTES ON PLANTING

1 Topsoil shall be spread to 450mm depth over planting beds and 150mm depth over turf areas and graded to fall.

2 Herbicide and Cultivation: Topsoil to be treated with an application of herbicide prior to planting, where necessary, strictly in accordance with the Control of Pesticides Regulations 1986 (or otherwise updated/ superseded legislation), and following manufacturer's instructions by qualified staff. The topsoil shall then be cultivated to 150mm depth.

3 Container Grown Shrubs, Transplants and Whips: Shrubs and transplants shall comply with the National Plant Specification and shall be planted in pits 300 x 300 x 300mm depth, and the backfill shall include 33% Peat free Tree and Shrub Compost. Specimen plants to be planted in a pit 400 x 400 x 250mm depth with 5 litres Tree and Shrub Compost. Whips and Bit shrubs to be notch planted and heeled into position

4 Herbicide: Avoid the excessive use of herbicide where possible by hand weeding beds. For more prolific weeds spot treat with a herbicide which is approved by the ecologist in accordance with the manufacturers instructions.

5 Bark Mulch: All planting beds and the native shrub mix on the embankment to receive 75mm depth amenity bark mulch sized 5-75mm and fire resistant BS4790:1987

6 Position of Plants: Final position of trees and shrubs subject to confirmation of service location and approval of statutory undertakers.

7 **TREES - EXTRA HEAVY STANDARD:** Tree pit 1000 x 1000 x 900mm depth with 150mm clean stone and 720mm depth good quality topsoil. Stakes to be 3nr 100mm diameter with cross bar, treated softwood driven firmley into the ground. Stakes to be 1000mm above ground and fixed to tree with suitable rubber tree tie

8 **TREES - SELECTED STANDARD:** Tree pits for selected standards to be 900 x 700 x 600mm backfilled with 150mm clean stone and 450mm good quality topsoil. Stakes to be 65mm diameter treated softwood driven firmly into the ground. Stakes to be 600mm above ground level and fixed to tree with suitable rubber tree tie.

10 **Watering:** Plant only into moist soil and water thoroughly to the full depth of soil immediately after planting. Water regularly through the establishment period (minimum 3 months) to prevent dehydration.

Plant Schedule

Class	Nr	Code	Plant Name	Height/Spread/Grade	Girth	Age	Root	Container	Form	Density	Density Type
Climber	16	Hh	Hedera helix	100-150			C	10-12L			
Herbaceous Plant	32	Cp	Carex pendula				C	3L		4.00	/m2
Herbaceous Plant	10	Ruth Fold	Rudbeckia fulgida 'Goldsturm'				C	3L		4.00	/m2
Shrub	20	Bda	Berberis darwinii	30-40			C	3L		3.00	/m2
Shrub	18	CGV	Ceanothus 'Gloire de Versailles'	40-60			C	3L		3.00	/m2
Shrub	6	CSP	Cistus 'Silver Pink'	30-40cm			C	3L		3.00	/m2
Shrub	4	Corn WG	Cornus 'White Gold'	50cm			C	10-12L			
Shrub	31	CaS	Cornus alba 'Sibirica'	60-80			C	3L		3.00	/m2
Shrub	77	Cv	Corylus avellana	60-80cm		1u1	B				
Shrub	28	CpGS	Cytisus x praecox 'Gold Spear'	40-60			C	3L		3.00	/m2
Shrub	33	Euon JDA	Euonymus japonicus 'Ovatus Aureus'	40-60cm			C	3L		3.00	/m2
Shrub	9	HMB	Hebe 'Midsummer Beauty'	30-40			C	3L		4.00	/m2
Shrub	38	Ligus vul	Ligustrum vulgare	60-80cm			B				
Shrub	19	MeinWS	Mahonia x media 'Winter Sun'	30-40			C	3L		3.00	/m2
Shrub	20	PiZ	Prunus laurocerasus 'Zabeliana'	30-40(D)			C	3L		3.00	/m2
Shrub	113	Plu	Prunus lusitanica	70-80cm			C	5L		4.00	/m
Shrub	77	Ps	Prunus spinosa	60-80cm		1+1 or 1/1	B				
Shrub	142	Pr	Pyracantha rogersiana	80-100cm			C	5L		4.00	/m
Shrub	21	Ra	Ribes alpinum	40-60			C	3L		3.00	/m2
Shrub	5	RmJu	Rosmarinus 'Miss Jessop's Upright'	30cm			C	3L		3.00	/m2
Shrub	77	Sn	Sambucus nigra	60-80cm		1+1 or 1/1	B				
Shrub	39	Vd	Viburnum davidii	20-30			C	3L		3.00	/m2
Shrub	81	Vo	Viburnum opulus	60-80cm			B				
Tree	30	Ac	Acer campestre	60-80cm			BR		Whip		
Tree	6	Al RH	Amelanchier lamarckii 'Robin Hill'	200-250	10-12		RB		Standard		
Tree	3	Bp	Betula pendula	300-350		3x	RB		Multi-stem		
Tree	3	Cb	Carpinus betulus	300-350	10-12	2x	B		Standard (Selected)		
Tree	4	Ccol	Corylus colurna	425-600	14-16	3x	RB		Standard (Extra heavy)		
Tree	238	Cm	Crataegus monogyna	80-100		1+1 or 1/1	B		Transplant - seed raised	5.00	/m
Tree	3	Fe	Fraxinus excelsior	300-350	10-12	2x	B		Standard (Selected)		
Tree	3	PhS	Prunus x hillieri 'Spire'	425-600	14-16	3x	RB		Standard (Extra heavy)		
Tree	3	Sau	Sorbus aucuparia	300-350	10-12	2x	B		Standard (Selected)		

Native Shrub Mix
Planted in random mix (1.00/m2)

4Nr	Ac
9Nr	Cv
4Nr	Ligus vul
9Nr	Ps
9Nr	Sn
10Nr	Vo

tpm landscape
chartered landscape architects

Client: Bowker Sadler
Project: Fenn Road, Tankersley (Glebe Court)
Description: Planting Plan
Status: For Information

Scale@A1	Drawn	Date
1:250	EP	Feb 12
Job number	Drawing number	Revision
1474	04	/

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NOTE: To achieve credits under Eco2 all key recommendations and 30% of the additional recommendations must be implemented.

8.0 APPENDIX 2: Preliminary Code for Sustainable Homes Assessment

Ecology Report Template

Please read the following before completing the report:

- This report template is to be used by Suitably Qualified Ecologist's providing reports which address Ecology 1, 2, 3 and 4 issues. It as a mandatory requirement that this document is completed in a Code for Sustainable Homes submission of evidence (CSH 2007 p 187).
- The appointed, licensed Code assessor is to pass this document to the appointed ecologist who conducted/ will conduct the ecology work.
- The appointed ecologist is to complete all sections of this report and return it completed with all relevant documentation in the Appendix to the assessor.
- An ecologist may have been appointed to carry out ecological site surveys and to produce an ecology report without being aware that a Code assessment has been, or is to be conducted. In this instance, the ecologist should fill in the relevant details required for the Code in this report template.
- The assessor is to use this report in conjunction with the latest version of the relevant Code Guidance and information provided by the developer / client, to carry out the assessment for the Ecology Category issues stated above.
- There are 6 sections (sections A - F) in this document.
- Section A1 requires contact details for the ecologist and developer / client; section A2 requires the development details.
- Section B1 determines whether the appointed ecologist is 'suitably qualified' (under the Code); and if not, section B2 determines whether the report has been verified by an ecologist who is 'suitably qualified'.
- Section C determines whether the findings of the report have been based on data collected from site surveys conducted at appropriate times of the year to determine whether different species are evident.

  (Note: If 'No' is recorded for either Section B or C then the contents of the ecology report cannot be used to determine compliance with the Code requirements).
- Section D provides the assessor with the necessary information to base the assessment on for the various Ecology credits.
- Section E provides details of the documentation / information to be included within the appendix of this guidance.
- Section F requires the signature of the appointed ecologist who has completed this document.

Section A1: Contact Details

Ecologist's Details

Company name: ERAP Ltd (Consultant Ecologists)

Company address: 49a Manor Lane, Penwortham, Preston, Lancashire, PR1 0TA

Contact name: Victoria Burrows

Contact telephone number: 01772 750502

Ecology Report Reference: ERAP Ltd_2012_019_Fenn Road, Tankersley_Ecological Survey_February 2012

Developer / Client Details

Company name: Bowker Sadler

Company address: TBC

Contact name: TBC

Contact telephone number: TBC

Section A2: Development Details

BRE Reference Number: TBC

Client Reference Number: TBC

Development Name: Fenn Road, Tankersley

Development Address: Fenn Road, Tankersley, near Barnsley, South Yorkshire

Section B1: Suitably Qualified Ecologist's Qualifications

Do you hold a degree (or equivalent qualification, e.g. N/SVQ level 5) in ecology or related subject?

Yes ☒ No ☐

If Yes, please provide details

Victoria Burrows B.Sc. (Hons), M.Sc. CEnv MIEEM:

In 2000, I obtained a first class degree (B.Sc. (Hons)) in Environmental Biology from The University of Manchester and have since (2001) gained a distinction in an M.Sc. entitled 'Ecological and Environmental Sciences' at Lancaster University.

Are you a practising ecologist with a minimum of 3 years relevant experience within the last 5 years?
Relevant experience must clearly demonstrate a practical understanding of factors affecting ecology in relation to construction and the built environment and will include acting in an advisory capacity to provide recommendations for ecological protection, enhancement and mitigation measures, e.g. ecological impact assessments.

Yes ☒ No ☐

If Yes, please provide details

I have been employed as an Ecologist at ERAP Ltd for over 11 years.

I have previously carried out ecological assessments to contribute the BREEAM rating at over 30 projects including a new fire station, several commercial business parks and university accommodation. I have also provided the relevant information for the assessment of over 15 EcoHome/Code for Sustainable Homes sites.

Are you bound by a professional code of conduct and subject to peer review*?
A full member of one of the following organisations will be deemed suitable: Chartered Institution of Water and Environmental Management (CIWEM); Institute of Ecology and Environmental Management (IEEM); Institute of Environmental Management and Assessment (IEMA); Landscape Institute (LI).

Yes ☒ No ☐

If Yes, please provide details: ……

In 2005, I upgraded from an Associate to a Full Member of the Institute of Ecology and Environmental Management.

In May 2009 I qualified for and achieved Chartered Environmentalist (CEnv) status.

**Peer review is defined as the process employed by a professional body to demonstrate that potential or current full members maintain a standard of knowledge and experience required to ensure compliance with a code of conduct and professional ethics.*

Note: If the answer to any question in Section B1 is 'No' then the ecologist writing the report does not meet the requirements of a *Suitably Qualified Ecologist* under the Code. The ecology report therefore cannot be used in the Code assessment unless it is verified by a 'Suitably Qualified Ecologist'. If this is the case, proceed to Section B2.

If the ecologist does meet the requirements of a *Suitably Qualified Ecologist*, proceed to Section C.

Section B2: Report Verification

If the appointed ecologist does not meet the requirements of a *Suitably Qualified Ecologist*, the report must be verified by an individual who does meet these requirements. Otherwise the ecology report cannot be used in the Code assessment.

1. The person who verifies the report must provide written confirmation that they meet the requirements of a Suitably Qualified Ecologist in accordance with Section B1 above.

2. Details on verifying an ecology report for a Code assessment:
   - The individual verifying the report must provide written confirmation that they comply with the definition of a Suitably Qualified Ecologist (as detailed above in Section B1).
   - The individual verifying the report must confirm in writing they have read and reviewed the report and found it to:
     - represent sound industry practice
     - report and recommend correctly, truthfully, and objectively
     - be appropriate given the local site conditions and scope of works proposed
     - avoid invalid, biased, and exaggerated statements.

Written confirmation from the third party verifier on all the points detailed under 1 and 2 above (for Section B2) must be included in the Appendix to this report (see Section E).

Section C: Site Survey

Have the findings of the ecology report been based on data collected from a site survey(s)?

Yes ☒ No ☐

If yes, please provide details to confirm this (e.g. date(s) and scope of site survey(s))

The Site was visited on the 1st February 2012 by Victoria Burrows B.Sc. (Hons), M.Sc. CEnv MIEEM.

The survey was undertaken *prior to* any construction works.

Vegetation and Habitats

An Extended Phase 1 Habitat Survey of the Site was carried out by Victoria Burrows B.Sc. (Hons), M.Sc. CEnv MIEEM on the 1st February 2012. The weather was dry, sunny and calm (Beaufort Scale 1) with temperature of 1°C at 10.30am. The weather conditions were suitable for a survey of this type.

All stands of vegetation and habitats were described and evaluated using the National Vegetation Classification (NVC). The NVC provides a systematic and comprehensive analysis of British vegetation and is widely used by Natural England and other wildlife organisations as well as ecological consultants to provide a scientific basis for the description and evaluation of habitats. The NVC provides a reliable framework for nature conservation and land-use planning.

Searches were made for uncommon, rare and statutorily protected plant species, those species listed as protected in the *Wildlife and Countryside Act 1981* and indicators of important and uncommon plant communities. All plant nomenclature follows Stace (1991).

Searches were carried out for the presence of invasive species, including those listed on Schedule 9 of the *Wildlife and Countryside Act 1981*, namely Japanese Knotweed and Giant Hogweed.

Wildlife and Protected Species

All wildlife present within the Site on the survey date was recorded and all habitats were assessed for their suitability for the support of wildlife including protected species (Badger, bats, amphibians), bird species and invertebrates.

Survey Limitations

No survey limitations or access difficulties were encountered (refer to section 2.4 of the Ecological Survey and Assessment report (ERAP Ltd February 2012)).

Note: If 'No' has been answered to Question 1 of Section C the ecology report cannot be used to determine compliance with the requirements of the relevant Code credits.
On what date did/ will initial site preparation works commence? / /

Note: If the site survey was carried out after initial site preparation works commenced, the ecology report cannot be used to determine compliance with the requirements of the relevant Code credits.
Note to Suitably Qualified Ecologist and the Code assessor: The contents of the ecology report must be representative of the site's existing ecology immediately prior to the commencement of initial site preparation works.

Section D: Details from the Site Survey

Eco 1 Ecological Value of Site
Is the construction zone of low or insignificant ecological value?
The construction zone includes any land used for buildings, hard standing, landscaping, site access and any other land where construction work is carried out (or land being disturbed in any way), plus a 3 metre boundary in either direction around these areas. It also includes any areas used for temporary site storage and buildings.

Yes ☒ No ☐

If yes, is there any land outside the construction zone but inside the development site of ecological value?.

Yes ☒ No ☐

Please give details:

Section 4.0 of the Ecological Survey and Assessment report (ERAP Ltd February 2012) provides a detailed evaluation of the Site and concludes that the Site is of ***low ecological value***.

The planted trees and shrubs around the Site margins are of ecological value as habitat for use by feeding and breeding birds and foraging bats on a local level.

If yes, is it possible for all areas / features of ecological value to remain undisturbed by the construction works?

Yes ☒ No ☐

Eco 2 Ecological Enhancement
Has the developer / client required you to provide advice and recommendations for enhancing site ecology?

Yes ☒ No ☐

If yes, please provide a brief statement outlining all of your KEY recommendations*:

The key recommendations detailed below and have taken into account the geographical position of the Site, the layout of the development Site, the habitats in the local area and observations made during the Site visit in February 2012. The key recommendations are those considered to be most suitable and beneficial to wildlife at this Site.

Key Recommendations

a. ***Key Recommendation a: Protection of trees and shrubs on Site margins***

Refer to Section 5.1 of the Ecological Survey and Assessment report (ERAP Ltd February 2012)

Trees and shrubs around the Site boundaries comprising the planted trees and shrubs to the west and south will be retained and incorporated into the Site layout.

During the construction phase temporary protective demarcation fencing must be used to protect the trees and shrubs to be retained. The fencing must extend outside the canopy of the retained and boundary trees and must remain in position until all plots have been developed to ensure protection is provided throughout the construction phase.

The fencing must be in accord with BS5837: 2005 Trees in Relation to Construction.

A Tree Removals, Retention and Protection Drawing (reference 1474/02 dated February 2012) has been prepared by TPM Landscape with ecological input from ERAP Ltd.

b. ***Key Recommendation b: Protection of breeding birds***

Refer to Section 5.2 of the Ecological Survey and Assessment report (ERAP Ltd February 2012)

All wild birds are protected under the Wildlife and Countryside Act 1981 while they are breeding. No pruning of trees or shrubs must be carried out within the bird breeding season unless it is confirmed by an ecologist that no breeding birds are present. The bird breeding season extends between March to August inclusive.

c. ***Key Recommendation c: Provision of eight bird boxes***

Refer to Section 5.2 of the Ecological Survey and Assessment report (ERAP Ltd February 2012) and Figure 4

The conservation of the boundary trees and shrubs in conjunction with a residential development provides an opportunity to incorporate features for the attraction of nesting birds such as Great Tit, Blue Tit, Robin, Starling and House Sparrow. The installation of eight bird boxes on suitable trees within the marginal trees and shrubs will attract nesting birds.

It is recommended that four woodcrete Schwegler 1B boxes with a 26mm diameter entrance hole and four boxes with a entrance hole diameter of 32mm are installed to provide opportunities for a range of species.

Boxes should be installed at a height of at least 4 metre away from cat access and must avoid facing prevailing weather.

d. ***Key Recommendation d: Landscape planting using native species and species known to be of value for the attraction of wildlife.***

Refer to Section 5.5 of the Ecological Survey and Assessment report (ERAP Ltd February 2012) and Figure 4

The landscape planting at this Site will comprise: -

Standard native trees
Native shrubs
Garden planting using species known to be value for the attraction of wildlife.

If yes, please provide a brief statement outlining all of your ADDITIONAL recommendations*.

In order to achieve the 30% status, at least one of the ADDITIONAL recommendations detailed below should be carried out. The recommendations below are in accord with the urban location of the Site, the layout of the housing development and the wildlife known to be present in the local area.

e. ***Additional Recommendation e: Gaps beneath the fences***

Refer to Section 5.4 of the Ecological Survey and Assessment report (ERAP Ltd February 2012) and Figure 4

The fencing to be used between the individual house plots should be raised from the ground level to create a gap of between 0.15 and 0.20metres. This will ensure that the movement of wildlife such as Hedgehog (a UK BAP Priority Species) is not impeded between gardens.

f. ***Additional Recommendation f: Management of trees and shrubs***

Refer to Section 5.1 of the Ecological Survey and Assessment report (ERAP Ltd February 2012) and Figure 4

Selective thinning and coppicing of the planted trees and shrubs to the west and south along the northern boundary (outside the bird breeding season, refer to Section 5.2 below) should be carried out to promote the longevity of the strips of vegetation and to promote light penetration and establishment of the understory species.

g. ***Additional Recommendation g: Use of peat-free compost in the planting***

The use of peat free compost in the landscape planting is recommended to assist the conservation of valuable peatlands for biodiversity and as carbon sinks.

- Peat bogs cover just 3% of the world's surface but they store twice as much carbon as all the world's forests combined.
- Healthy peat absorbs and stores carbon, by destroying peat bogs carbon dioxide is released.
- Due to erosion and pollution, bogs in northern Britain could be leaking as much carbon each year as 400,000 family cars. (Manchester University).
- The main users of peat in the UK are amateur gardeners, in fact they use 2/3 of the 3.4 million cubic metres extracted per year.
- 94% of the UK lowland peat bogs have already been lost. Half of the UK's soil carbon is in its Peatlands.
- 65% of all peat used in the UK is imported from other countries – causing yet further emissions through transportation.

** The client / developer will be required to adopt / implement all KEY recommendations and 30% of ADDITIONAL recommendations.*

Eco 3 Protection of Ecological Features

Note: Eco 3 looks at protecting all existing features / areas of ecological value on the site and boundary area. If a feature of ecological value is to be removed as part of the development works, e.g. site clearance, then this credit cannot be achieved. If you have deemed the whole development site to be of poor ecological value then there will be no features of ecological value to protect. If the construction zone is of low ecological value but the wider site is not, give protection measures here. If there is an area(s) or feature(s) of low or insignificant ecological value you wish to advise be retained and enhanced / improved, e.g. a species-poor hedgerow to a species-rich hedgerow, then full details of this advice should be entered as a recommendation under *Eco 2 Ecological Enhancement*.

Are there any existing features/ areas of ecological value on the site or at the boundary of the site?

Yes ☒ No ☐

If yes, please provide a brief statement outlining the advice/ recommendations given for protecting all existing features and areas of ecological value:

Tree protection measures in accord with British Standard 5837:2005 will be implemented to protect the existing boundary trees and shrubs. The measures are detailed on drawing number 1474/02 prepared by TPM Landscape.

Are any ecological features to be relocated on the site?

Yes ☐ No ☒

If yes, please provide a brief statement outlining the reasons for relocation and recommendations for protecting the ecological features:

Eco 4 Change of Ecological Value of Site

Are you able to provide the following information for before and after construction: habitat types and an estimate of the number of floral species present per habitat type (based on appropriate censusing techniques and confirmed planting regimes)?

Yes ☒ No ☐

If yes, please provide the following information:

a. A brief description of the landscape and habitats surrounding the development site

The Site and the Construction Zone comprise the footprint of a former stables and an area of semi-improved grassland.

Refer to Section 3.2 and Figures 1-3 of the Ecological Survey and Assessment report (ERAP Ltd February 2012)

b. The total site area *(this will be the same both before and after development):* *8400*m^2

c. Provide details of the site before development in the table below:

Habitat Type*	Area of habitat type (m^2)	Number of species per habitat type
Bare ground and very sparse vegetation at the former stables	600	0
Semi-improved grassland	5850	6 (refer to **Table 1** of the Ecological Survey and Assessment report (ERAP Ltd February 2012))
Planted trees and shrubs	1950	7 (refer to **Table 2** of the Ecological Survey and Assessment report (ERAP Ltd February 2012))

d. Provide details of the site after development in the table below:

Habitat Type*	Area of habitat type (m^2)	Number of species per habitat type
Buildings, hard-standing and gardens	5960	0
Planted trees and shrubs	1950	7 (refer to **Table 2** of the Ecological Survey and Assessment report (ERAP Ltd February 2012))
Landscape planting in accord with TPM Landscape plan 1474/04 prepared with input from ERAP Lrd	490	27

* *Habitat types will include natural areas, e.g. various grasslands and woodlands; as well as areas of the built environment, e.g. buildings, hard landscaping. The area of each habitat type when added together must always equal the total area of the development site.*

Note: Areas were provided by TPM Landscape. This is a pre-planning preliminary assessment and the areas and species schedule may be subject to change.

Has your client / developer requested you to carry out the calculation for Eco 4 Change in Ecological Value of Site? *The calculation must be carried out in line with the methodology provided in the most current version of the Code Guidance.*

Yes ☒ No ☐

If yes, please complete the tables below:

Calculation of the Ecological Value of the Site Before Development

Plot Type	Area of Plot Type [m^2]		Species [No.] (from Table 2 or a SQE*)		Species x Area of Plot Type
Bare ground and very sparse vegetation at the former stables	600	X	0	=	0
Semi-improved grassland	5850	X	6	=	35100
Planted trees and shrubs	1950	X	7	=	13650
(1) Total site area =	**8400**			(2) Total =	**48750**
				Species before development = Total species x area of plot type / Total site area = (2)/(1) =	**5.8**

Calculation of the Ecological Value of the Site After Development

Plot Type	Area of Plot Type [m^3]		Species [No.] (from Table 2 or a SQE*)		Species x Area of Plot Type
Buildings, hard-standing and gardens	5960	X	0	=	0
Planted trees and shrubs	1950	X	7	=	13650
Landscape planting in accord with TPM Landscape plan 1474/04 prepared with input from ERAP Lrd	490	X	27	=	13230
(1) Total site area =	**8400**			(2) Total =	**26880**
				Species after development = Total species x area of plot type / Total site area = (2)/(1) =	**3.2**

* SQE = Suitably Qualified Ecologist

Total area of site and areas of landscape planting development was supplied by TPM Landscape

Species Change = 3.2 - 5.8 = -2.6 2 credits are achievable.

Section E: Appendix

The required documentation to be included within the appendix of this guidance document will include: the ecology report; written confirmation from the verifier of the ecology report (where necessary); and any supplementary documentation, e.g. ecologist's curriculum vitae; maps, plans, drawings, letters / emails of correspondence, etc. Please include these details along with the appropriate reference to each document in the table below:

Document	Reference
Ecological Survey and Assessment Report	ERAP Ltd 2012_019_(February 2012) Land at Fenn Road, Tankerlsey *Ecological Survey and Assessment report*
Landscape Planting Proposals	TPM Drawing 1474/04

Section F: Signature of Validation

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Name of ecologist: Victoria Burrows B.Sc. (Hons), M.Sc. CEnv MIEEM



Signature of ecologist: Date 10/02/2012

APPENDIX 3: BAT TREE ASSESSMENT CRITERIA

Criteria for Assessment of Trees in accord with Category 1 to 3 as defined in Box 8.2 of the Bat surveys-good practice guidelines (BCT 2007).

CATEGORY	DESCRIPTION	CRITERIA
1	Confirmed	Evidence found that indicates tree/tree features are being used by bats. Droppings found at the base of the tree, below a cavity. Bats heard 'chattering' inside a feature on a warm day or at dusk Bat(s) observed flying from or to a feature.
2a	High value	Features of particular significance, suitable for high priority roosts such as maternity roosts, used by large numbers of bats, offering conditions that are uncommon or rare in the local area. Features such as large cavities, extensive branch or trunk splits, also including multiple features in the same tree that offer a diversity of opportunities. Features may also include dense ivy.
2b	Moderate value	Features which provide a more secure form of roost for small groups of bats and individuals, but may still be quite common types of feature, such as small cavities, minor splits or sparse ivy cover. A tree which on close inspection the potential roost positions are in some way not ideal. They could be upward facing or holes very low down or cluttered by adjacent branches.
3	Low/Negligible value	Trees that have no features which could be used by bats for roosting (Usually young trees).