A BREEAM ASSESSMENT FOR SHAFTON, BARNSLEY






By

E3 Ecology Ltd

Pasture House
Wark
Hexham
NE48 4DG
T 01434 230982
E mail@e3ecology.co.uk

CONTENTS

CONTENTS 2
A EXECUTIVE SUMMARY 3
B INTRODUCTION 6
B1 Background to development 6
C SURVEY AND SITE ASSESSMENT 6
C1 Consultation, pre-existing information on habitats/protected species 6
C2 Legal Status of protected species 6
C3 Objective(s) of survey 7
C4 Survey area 7
C5 Personnel their qualifications and experience 9
C6 Field Survey Methods 9
C6.1 Phase I Habitat Survey 9
C6.2 BREEAM Species Survey 9
C6.3 Site Assessment 10
C7 Results 11
C7.1 Phase I Habitat Survey 11
C7.2 BREEAM Species Survey 11
C7.3 Target notes 12
C7.4 Protected species 13
C7.5 Site Assessment 15
D IMPACT ASSESSMENT 16
E MITIGATION PROPOSALS 17
F BREEAM ASSESSMENT 19
F1 Background 19
F2 Guide Credit Rating 20
F3 BREEAM Assessment Summary 23

Client	Revision	Status	Date	Author	Proof Read	Checked
Anthony Walker and Partners	R01	Draft	01.12.09	AJ	MD	RJW
	R02	Draft	07.06.10	KD	JS	
Job No. 1921						

©E^3 Ecology Ltd

A EXECUTIVE SUMMARY

E^3 Ecology Ltd was commissioned by Anthony Walker and Partners to undertake a BREEAM for Schools assessment of land at Shafton, Barnsley in order to identify where proposals for the construction of a school and associated landscape features meet the relevant criteria and to provide a guide credit rating for the development.

The credit rating indicated within this report should be taken as a guide only, the awarding of credits by the BREEAM assessor cannot be guaranteed. The guide credit rating detailed within this report is based on the pre-assessment estimator provided by BREEAM and the BREEAM assessor will require evidence to support each credit claim.

It is proposed to construct new school buildings on the existing intensively grazed fields. Proposals include the felling of a small number of trees, including two mature ash trees. Proposals also include the provision of new habitats on site including additional areas of native tree planting, native shrubs and a habitat/wildlife garden with a seasonal pond and wildflower planting.

Initial phase I habitat survey work was undertaken by G L Hearn in the summer of 2006 as part of an Environmental Statement commissioned by Barnsley Metropolitan Borough Council. A checking survey to inform the BREEAM report was carried out by E3 Ecology in December 2009 and is the subject of this report.

Habitats on site are dominated by improved grassland, grazed by ponies at the time of survey in 2009. The western boundary of the site comprises a footpath adjacent to a hedgerow and small ditch. Species poor hedgerows and post and rail fencing form the northern and eastern site boundary. Open fields form the southern boundary.

Hazledene Farm is situated in the east of the site, but lies outwith the development boundary. A strip of dense scrub and tall ruderal vegetation is present in the west of the site and coarse grassland species are present in the north of the site and along field margins. Dominant species include perennial rye grass, cocks foot, fescue, broad leaved dock, bramble, elder, bracken, common nettle, false oat grass and Yorkshire fog.

Overall habitats recorded within the site during 2009 are considered to be of low ecological value however trees and hedgerows provide habitats for nesting birds. A brown hare was recorded during survey, however this UK BAP species is unlikely to reside within the site given the proximity to a public footpath and the associated disturbance and the lack of cover within the site.

Bats may use the site and Hazledene Farm wmay provide suitable roosting opportunities for this group of mammals. The building is of brick construction with a slate roof and likely loft voids. A bat activity survey of the hedgerows and trees within the site, was undertaken in 2006 by GL Hearn, two pipistrelle bats were recorded, one commuting along the western boundary hedgerow and the second foraging within the farmyard to the east, but not entering the site.

Trees within the site are not considered to support roosting bats lacking suitable features and there are no structures within the site boundary, however the site is considered to provide good quality foraging habitat for bats. Two mature trees are present in the south of the site however, these trees are considered to have only a low risk of supporting roosting bats being in good condition and lacking crevices, deadwood and holes.

©E^3 Ecology Ltd

There are no areas of standing water within the site, the ditch that runs along the western boundary is partially dry and is not considered suitable to support water vole, otter or great crested newts.

There were no impacts to protected species highlighted within the original environmental statement. No evidence of badger foraging activity was noted on the areas covered during the BREEAM assessment.

Potential impacts of the proposed development without appropriate mitigation:

- The proposed development will result in potential harm or disturbance of nesting birds if vegetation clearance or any tree works are carried out in the site during the bird nesting season.
- The proposed development will result in the loss of semi mature and mature trees of ecological value to nesting birds.
- The proposed works may cause short-term disturbance to foraging and commuting bats if undertaken outside of daylight hours.
- The proposed development may cause long-term disturbance to foraging and commuting bats as a result of increased light levels, particularly the flood lit astropitch.
- Proposals may result in pollution of the small burn along the western site boundary, through run-off during construction and post construction.
- Proposals include the loss of areas of species poor grassland, scrub and sections of hedgerow, considered to be of low ecological value.
- Proposals will result in the creation of new areas of habitat for bats and other wildlife within the site through landscaping proposals including hedge, scrub and tree planting and the sowing of wildflower seed.

Mitigation proposals are outlined within this report, which aim to address the potential impacts detailed above. Key measures include:

- Where vegetation clearance is required, this will be carried out outside of the bird-nesting season (March to September inclusive) unless a checking survey undertaken by a suitably qualified ecologist demonstrates that active nests are absent.
- Trees to be retained will be protected during works with a fenced buffer zone of 5m created around any trees to be retained in order to protect their roots.
- Site lighting post development should be low level and low wattage to minimise the severance of potential bat flight paths. High intensity security lights should not be utilised lighting designed to be less than 2 lux. Light spillage onto the hedgerows and trees should be avoided, especially along the western and eastern boundaries.
- The floodlit astropitch should be designed to ensure light spill does not reach the eastern boundary and adjacent farmhouse, where bats may roost. Specifically tree planting should be suitable to provide sufficient barrier between this lit area and the farmyard and associated trees. Lighting should be angled downwards further reducing light spill in this area.
- A buffer zone should be maintained between the site and the burn in the west. Good practice working methods and site management will ensure no alteration to run-off or pollution of this watercourse.
- Fencing along the western site boundary should be erected to prevent disturbance by pupils and reduce littering of the burn.
- Bird boxes will be provided within the retained trees within the site to enhance the value of the site for birds.

©E^3 Ecology Ltd

- Bat boxes will be provided on retained trees to enhance the ecological value of the site for bats.

According to the relevant BREEAM Assessment Criteria, the following credits may be awarded:

No credits can be awarded under LE3 given that proposals include the removal of habitats with the potential to support nesting birds including semi mature and mature trees.

One credit can be awarded under LE4 as the majority of the existing site's ecological habitat types and areas are not displaced as a result of the new development.

One credit is available under LE5 given that the recommendations of the initial ecological report by G L Hearn have been/will be followed.

One credit is available under LE6 subject to implementation of a habitat management plan for the site and compliance with the mitigation in this report. **A further credit** could potentially be awarded, should evidence of training of contractors or allocation of a site biodiversity champion be provided to the BREEAM assessor.

Overall a total of four credits are potentially available for the site.

©E^3 Ecology Ltd

B INTRODUCTION

E^3 Ecology Ltd was commissioned by Anthony Walker and Partners to undertake an ecological survey of land at Shafton, Barnsley. It is proposed that a new school building be constructed within the fields currently used for grazing.

B1 Background to development

The site is located at grid reference SE 396100 east of the residential area of Upper Cudsworth, Barnsley. The site is bordered by the A6195 to the east and a public footpath to the west. The residential area of Shafton is situated to the north.

It is proposed to build a new school and associated playing fields on the land, with additional planting of trees, scrub and areas of wildflowers. Proposals include the felling of a small number of trees, including two mature ash trees.

The location of the site, and habitats present within the surrounding area, are shown in Figures 1 and 2 (C4). Figure 3 illustrates the proposed plans.

C SURVEY AND SITE ASSESSMENT

C1 Consultation, pre-existing information on habitats/protected species

There are no statutory sites within or adjacent to the application site. The government's 'MAGIC' (Multi-Agency Geographic Information for the Countryside) website indicates that no protected sites are present within 2km of the site.

The National Atlas of bat distribution holds records of whiskered, Daubenton's, noctule, Leisler's, pipstrelle and brown long eared bats within this 10km square.[1]

A phase I habitat survey was undertaken by G L Hearn during 2006[2] as part of an environmental statement. The following habitats were recorded on site; arable fields, species-poor semi improved grassland, hedgerow, trees and introduced shrubs. Overall the site was considered to be of Parish value.

C2 Legal Status of protected species

Planning Policy

Government Planning Policy Statement 9: Biodiversity and Geological Conservation states the following:

- Plan policies and planning decisions should be based upon up-to-date information about the environmental characteristics of their areas (Paragraph 1(i)).
- Plan policies and planning decisions should seek to maintain, or enhance, or add to biodiversity conservation issues (Paragraph 1(ii)).
- Local planning authorities should consider whether proposed developments can be accommodated without causing harm to biodiversity conservation interests. Where there may be significant harmful effects, local planning authorities will need to be satisfied that any reasonable alternative sites that would result in less or no harm have been fully considered (Paragraph 1(v)).

[1] Distribution Atlas of Bats in Britain and Ireland, Phil Richardson 2000, Bat Conservation Trust.
[2] G L Hearn (2006) Chapter 4.5 Nature Conservation. A New School for Shafton Two Gates Environmental Statement, Barnsley Metropolitan and Borough Council p80-88.

©E^3 Ecology Ltd

- Where development will result in unavoidable and significant adverse impacts on biodiversity and geological conservation, planning permission for it should only be granted where adequate mitigation measures are put in place. Local planning authorities should normally seek appropriate measures to compensate for any harm which cannot be presented or mitigated (Paragraph 1(vi).
- Development proposals provide many opportunities for building-in beneficial biodiversity or geological features as part of good design. When considering proposals, local planning authorities should maximise such opportunities in and around developments, using planning obligations where appropriate (Paragraph 13).

Certain species have been identified as requiring conservation action as species of principal importance for the conservation of biodiversity in England. Local authorities should take measures to protect the habitats of these species from further decline through policies in local development documents. Planning authorities should ensure that these species are protected from the adverse effects of development, where appropriate, by using planning conditions or obligations. Planning authorities should refuse permission where harm to the species or their habitats would result unless the need for, and benefits of, the development clearly outweigh that harm (Paragraph 14).

C3 Objective(s) of survey

The aims of the study are to provide a guide BREEAM credit rating for the development using the BREEAM Schools 2006 Assessment Criteria.

C4 Survey area

The site is situated south of Shafton Two Gates, Barnsley, on the edge of a residential and industrial area with arable land to the south and residential housing to the north and west. The site comprises open fields, grazed by ponies. The western boundary of the site comprises a footpath adjacent to a hedgerow and small ditch. Species poor hedgerows and wooden fencing form the northern and eastern site boundary. Open fields form the southern boundary. Hazledene Farm is situated in the west of the site, but falls outwith the development boundary.

The site location is illustrated in Figure 1 (below).

©E^3 Ecology Ltd

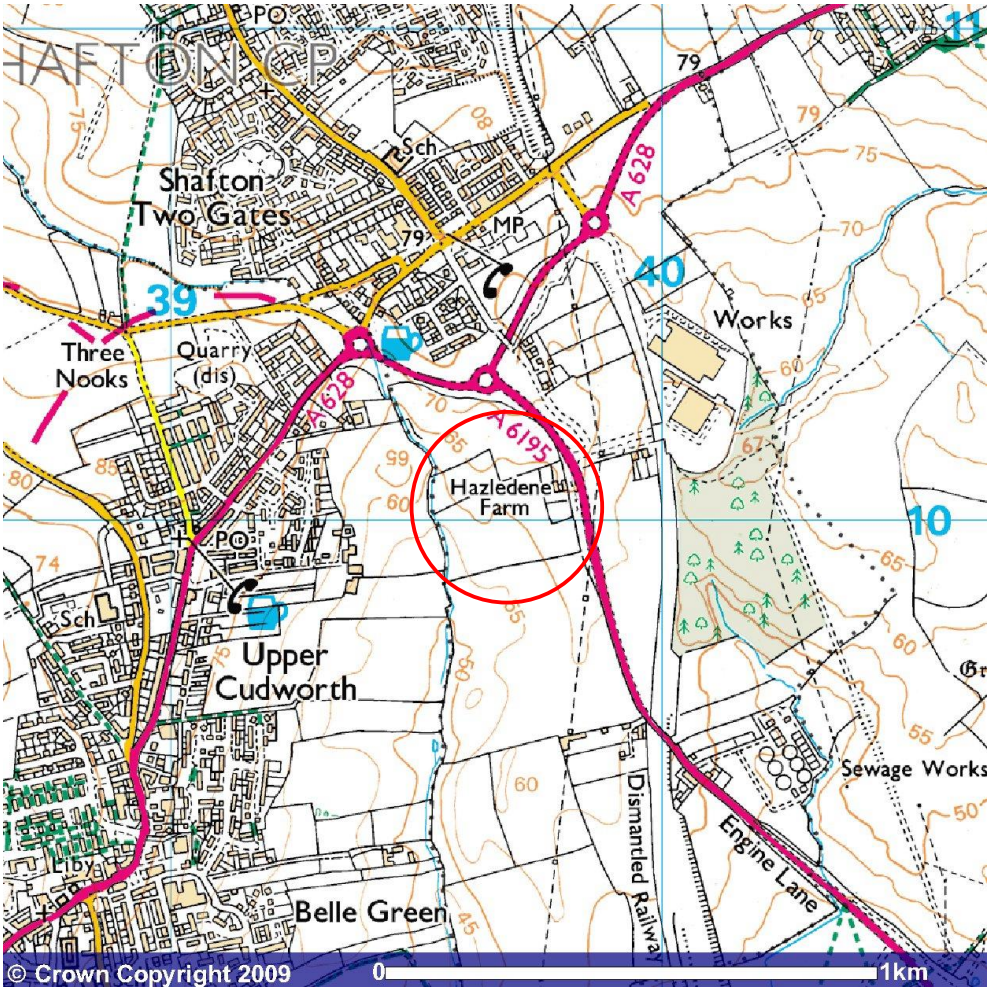


Figure 1. Site location

Reproduced from the ordnance survey map with the permission of the controller of Her Majesty's stationery office. CJ Crown Copyright reserved. Licence number 100039392.



Figure 2. Site location and habitats. Radius shown is 500m
Reproduced under licence from Google Earth Pro

The survey area boundary is illustrated in Figure 3 (Section C7).

C5 Personnel their qualifications and experience

Survey work and reporting was undertaken by James Streets BSc MSc MIEEM and Asha Jones BSc, and supervised by Dr. Tony Martin BSc PhD MLI MIEEM of E^3 Ecology Ltd. Details of experience and qualifications are available at www.e3ecology.co.uk.

C6 Field Survey Methods

C6.1 Phase I Habitat Survey

A phase I habitat survey was undertaken by G L Hearn in 2006 as part of an Environmental Statement commissioned by Barnsley Metropolitan Borough Council.

C6.2 BREEAM Species Survey

Initial survey work was undertaken by G L Hearn in 2006 as part of an Environmental Statement commissioned by Barnsley Metropolitan Borough Council. A checking survey to inform the BREEAM report was carried out on 9th December 2009 and is the subject of this report. Habitats and flora present on site were recorded, access was available to the entire site.

The quality of field data will be affected by the season of the survey, with some plant species only being evident or identifiable in certain seasons.

C6.3 Site Assessment

The value and significance of the habitats and species found was assessed against the following criteria developed from the Guidelines for Ecological Impact Assessment produced by the Institute of Ecology and Environmental Management[3].

Level of Value	*Examples*
International	❑ An internationally designated site or candidate site. ❑ 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. ❑ Any regularly occurring, nationally significant population/number of any internationally important species.
National	❑ A nationally designated site. ❑ A viable area of a priority habitat identified in the UK BAP, or smaller areas of such habitat, which are essential to maintain the viability of a larger whole. ❑ Any regularly occurring population of a nationally important species, which is threatened or rare in the region or county. ❑ A regularly occurring regionally or county significant population/number of any nationally important species. ❑ A feature identified as of critical importance in the UK BAP.
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. ❑ A regularly occurring, locally significant number of a regionally important species.
County/ Metropolitan	❑ County/Metropolitan designated sites. ❑ A viable area of a habitat type identified in the 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 species important in a County/Metropolitan context.
District/ Borough	❑ Areas of habitat identified in a District/Borough level BAP. ❑ Sites designated at a District/Borough level. ❑ Sites/features that are scarce within the District/Borough or which appreciably enrich the District/Borough habitat resource. ❑ A population of a species that is listed in a District/Borough BAP because of its rarity in the locality.
Parish/ Neighbourhood	❑ Area of habitat considered to appreciably enrich the habitat resource within the context of the Parish or neighbourhood. ❑ Local Nature Reserves.
Low	❑ Habitats of poor to moderate diversity such as established conifer plantations, species poor hedgerows and unintensively managed grassland that may support a range of Local BAP species but which are unexceptional, common to the local area and whose loss can generally be readily mitigated.

[3] Institute for Ecology and Environmental Management (2006) Guidelines for Ecological Impact Assessment in the United Kingdom (Version 7 July 2006). http:/www.ieem.org.uk/ecia/index.html.

©E[3] Ecology Ltd

C7 Results

C7.1 Phase I Habitat Survey

A phase I habitat survey was undertaken by G L Hearn during 2006 as part of an environmental statement. The following habitats were recorded on site; arable fields, species-poor semi improved grassland, hedgerow, trees and introduced shrubs. No evidence of protected species was recorded within the site, although hedgerow and tree habitats provide potential for nesting birds.

Overall the site was concluded to be of Parish value.

C7.2 BREEAM Species Survey

The majority of the site comprises intensively grazed, improved grassland. The site has been divided into habitat types in order to establish a species count, where similar habitat types have been noted with considerably different numbers of species this has been noted. Figure 3 illustrates the habitats recorded on site.

Improved grassland



The grass sward is dominated (90%) by grasses with weedy species including; *Rumex crispus* (curled dock), *Cirsium arvense* (creeping thistle), *Lapsana communis* (nipplewort), *Plantago major* (greater plantain), *Trifolium repens* (white clover), *Senecio jacobaea* (common ragwort), *Medicago lupulina* (black medick), *Cirsium vulgare* (spear thistle), *Stellaria media* (chickweed) and *Ranunculus repens* (creeping buttercup). Grasses include *Lolium perenne* (perennial rye grass), *Festuca* sp. (fescue grass) and *Poa* sp. (annual meadow grass). The grassland is close cropped and grazed by ponies throughout the site.

Coarse grassland



Along the northern boundary is a small section of coarse grassland comprising *L. perenne*, *Dactylis glomerata* (cocks foot), *Festuca* sp., and *Rumex* sp. Along the margins of the heavily grazed grassland are coarse grassland and scrub with the following species recorded: *Rubus fruticosus* (bramble), *Sambucus nigra* (elder), *Pteridium aquilinum* (bracken), *Urtica dioica* (common nettle), *Arrhenatherum elatius* (false oat grass) and *Holcus lanatus* (Yorkshire fog).

Hedgerow, trees and scrub

Along a field boundary in the west is a section of *Crataegus monogyna* (hawthorn) hedgerow and post and wire fencing, beyond this to the west is an area of coarse

©E^3 Ecology Ltd

grassland and dense scrub. Species include: *R. fruticosus*, *Heracleum sphondylium* (hogweed), *Dipsacus fullonum* (teasel), *Crataegus monogyna* (hawthorn), *U. dioica*, *A. elatius*, *L. perenne*, *H. lanatus*, *Anthriscus sylvestris* (cow parsley), *Galium aparine* (cleavers), stands of *Epilobium hirsutum* (great willowherb) and a localised stand of *Rubus idaeus* (raspberry).

Rabbit warrens are present in this scrub area. The area lies immediately adjacent to a footpath, heavily disturbed by dog walkers, reducing the risk of use by badger. To the far north of this scrub is further coarse grassland including species previously mentioned. Log piles are present in the scrub providing good habitat for invertebrates.

Shrub and hedgerow planting is present along the eastern boundary of the site, with a coarse grassland and scrub understorey including; *R. fruticosus*, *C. arvense*, *H. sphondylium, D. glomerata*, *Hedera helix* (ivy) and *Galium aparine* (cleavers). The hedgerow supports *Fraxinus excelsior* (ash), *C. monogyna*, *Ilex aquifolium* (holly), *Corylus avellana* (hazel), *Prunus* sp. (cherry), *R. crispus*, *Euphorbia helioscopia* (sun spurge), *L. communis*, *Veronica persica* (common field speedwell) and *Taraxacum* agg. (dandelion). A dry ditch is present here. *Senecio vulgaris* (grounsel) and *R. fruticosus* are present on the site margins.

C7.3 Target notes



Target note 1: Mature Ash Trees
There are two mature *F. excelsior* field trees towards the south of the site. The most southerly of these is split at the base with the diameter at breast height (dbh) of each of the two sections measuring approximately 60cm and 50cm respectively. The tree reaches approximately 12-14m in height. Overall this tree is considered to have a low risk of supporting roosting bats with only a single crevice present where a branch has fallen away, leaving a hole rather than crevice. No other crevices or sections of dead wood are present.

Target note 2: Small Burn



Along the western site boundary is a public footpath and a small ditch. A small burn, approximately 0.5m wide, runs through the ditch but is dry for the majority of its length and is heavily shaded. There is flowing water in sections, with a slow southerly rippled flow, the depth is no more than 5cm and no aquatic vegetation was recorded.

The burn is bordered by a strip of coarse grassland approximately 1-2m in width species present include; *Urtica dioica*, *Rumex* sp. *D. glomerata*, *L. perenne*, *H. sphondylium*, *E. hirsutum*, *Plantago lanceolata* (ribwort plantain), *R. fruticosus*, *C. arvense*, *T. repens*, *Taraxacum* agg, *D. fullonum*, *P. major*, *Trifolium pratense* (red clover), *Tripleurospermum inodorum* (mayweed) and *A. sylvestris*. There are no trees present on the near bank. On the far bank, vegetation comprises a hedgerow dominated by hawthorn, willow, semi mature ash and elder. The under storey vegetation comprises bramble, hogweed and coarse grassland species as listed above. The ditch becomes dry again further south.

©E^3 Ecology Ltd

C7.4 Protected species

The hedgerow, scrub and trees within the site provide opportunities for nesting birds. Bird species noted during survey include; Thrush, Blackbird, Wren, House Sparrow, Bullfinch, Magpie and Robin.

A brown hare was noted during survey within the dense scrub in the west of the site. This UK BAP species is unlikely to reside within the site given the highly disturbed nature of the areas of scrub present, there is limited cover provided by the remaining habitats on site.

A single mature tree is considered to have a low risk of supporting roosting bats. An emergence survey was undertaken in 2006 as part of the Environmental Statement. No bat roosts were recorded within the site, a single common pipistrelle bat was recorded commuting along the hedgerow and a second bat was recorded outwith the site boundary within the farmyard to the east.

The burn in the west of the site is not considered suitable for water vole given the low levels of vegetation and cover present and the disturbed location of the ditch. The ditch is dry in sections and there is no vegetative material suitable for great crested newt egg laying. The lack of areas of open standing water further reduces the risk of great crested newts using the ditch for breeding.

The site is not considered likely to support any other protected or notable species.

©E^3 Ecology Ltd

Key

- Improved grassland
- Dense scrub
- Coarse grassland
- Individual trees
- 1 Target note
- Fence
- Broadleaved plantation woodland
- Watercourse
- Site boundary
- Hedgerow



E3 Ecology Ltd Tel: 01434 230982		Drawn By: AJ Checked By: ADM Date: 09.12.09 Revision: 01 Scale: NTS	Job No:- 1921	Figure No:- 03
			Title:- Shafton Habitat map	

C7.5 Site Assessment

The habitats within the site are considered to be of low to parish conservation value, supporting a range of locally common species and habitats, which are likely to be widely replicated throughout the surrounding area. With respect to other key wildlife, habitats within the site are considered to be of low value with tree planting towards the boundaries providing opportunities for locally common nesting birds.

D IMPACT ASSESSMENT



Figure 4. Proposed plans illustrating landscaping.

Potential impacts of the proposed development, without appropriate mitigation identified following survey in 2009 include:

- The proposed development will result in potential harm or disturbance of nesting birds if vegetation clearance or any tree works are carried out in the site during the bird nesting season.
- The proposed development will result in the loss of semi mature and mature trees of ecological value to nesting birds.
- The proposed works may cause short-term disturbance to foraging and commuting bats if undertaken outside of daylight hours.
- The proposed development may cause long-term disturbance to foraging and commuting bats as a result of increased light levels, particularly the flood lit astropitch.
- Proposals may result in pollution of the small burn along the western site boundary, through run-off during construction and post construction.
- Proposals include the loss of areas of species poor grassland, scrub and sections of hedgerow, considered to be of low ecological value.
- Proposals will result in the creation of new areas of habitat for bats and other wildlife within the site through landscaping proposals including hedge, scrub and tree planting and the sowing of wildflower seed.

E MITIGATION PROPOSALS

Mitigation measures highlighted within the 2006 report included:

- New hedgerows containing a minimum of seven, native woody species and native trees, will be planted and where possible will connect to retained hedgerows.
- Diverse grassland boundaries should be planted and managed to maintain its ecological value.
- Removal of woody vegetation will be undertaken outside the nesting season (i.e. vegetation will only be cleared between the end of September and the end of February). Removal of woody vegetation will only be undertaken during the nesting season if the area to be removed is examined by a suitably qualified ecologist and considered to be free from any active nests.
- Should any active nests be present, then a ten metre exclusion zone will be marked out along the hedgeline or around the tree and no removal works undertaken until the nest ceases to be active.

Additional mitigation proposals are outlined below following survey in 2009. Key measures include:

- Where vegetation clearance is required, this will be carried out outside of the bird-nesting season (March to September inclusive) unless a checking survey undertaken by a suitably qualified ecologist demonstrates that active nests are absent.
- Trees to be retained will be protected during works with a fenced buffer zone of 5m created around any trees to be retained in order to protect their roots. .
- Site lighting post development should be low level and low wattage to minimise the severance of potential bat flight paths. High intensity security lights should not be utilised lighting designed to be less than 2 lux. Light spillage onto the hedgerows and trees should be avoided, especially along the western and eastern boundaries.
- The floodlit astropitch should be designed to ensure light spill does not reach the eastern boundary and adjacent farmhouse, where bats may roost. Specifically tree planting should be suitable to provide sufficient

barrier between this lit area and the farmyard and associated trees. Lighting should be angled downwards further reducing light spill in this area.

- A buffer zone should be maintained between the site and the burn in the west. Good practice working methods and site management will ensure no alteration to run-off or pollution of this watercourse.
- Fencing along the western site boundary should be erected to prevent disturbance by pupils and reduce littering of the burn.
- Bird boxes will be provided within the retained trees within the site to enhance the value of the site for birds.
- Bat boxes will be provided on retained trees to enhance the ecological value of the site for bats.

©E^3 Ecology Ltd

F BREEAM ASSESSMENT

F1 Background

The BREEAM Schools 2006 assessment criteria are used as guidance for the ecological assessment of the site in order to award credits when relevant requirements for the development are complied with. The following credit points are available in the Land Use & Ecology section of the BREEAM schools assessment with relation to ecology:

Credit Reference	LAND USE & ECOLOGY	Points
LE03 **Ecological value of land and protection of ecological features**	Where evidence is provided to demonstrate that the construction zone is defined as land of low ecological value and all existing features of ecological value will be fully protected from damage during site preparation and construction works.	**1**
LE04 **Mitigating ecological impact** (These point scores are not cumulative)	Credits are awarded based upon the degree of negative impact the new development has on the site's existing ecology. In a formal BREEAM assessment the ecological impact of the development is calculated based on the area of habitat and number of floral species displaced, using BREEAM's ecological value calculator. As a guide, the following can be used to estimate the likely number of credits:	
	No credits can be awarded where the new development will displace a significant majority of the existing site's ecological habitat types and areas.	**0**
	Where evidence is provided to demonstrate the change in ecological value of the site, as a result of development, is between less than zero and equal to, or less than, minus nine species, i.e. a small negative change.	**1**
	Where evidence is provided to demonstrate there is no negative change in the ecological value of the site as a result of development, i.e. equal to, or greater than, zero species.	**2**
LE05 **Enhancing site ecology** (These point scores are not cumulative)	Where evidence is provided to demonstrate that the design team (or client) has i) appointed a professional to advise and report on enhancing and protecting the ecological value of the site; and ii) implemented the professional's recommendations for general enhancement and protection of site ecology.	**1**
	OR Where evidence is provided to demonstrate a positive increase in the ecological value of the site of up to (but not including) 6 species.	**2**
	OR Where evidence is provided to demonstrate a positive increase in the ecological value of the site of 6 species or greater.	**3**
LE06 **Long term impact on biodiversity** (These point scores are not cumulative)	Where evidence is provided to demonstrate that the client has committed to achieving the mandatory requirements listed below **and** at least two of the additional requirements.	**1**
	OR at least four of the additional requirements.	**2**

LE06 Mandatory Requirements

A suitably qualified ecologist must confirm in writing that:

- All relevant UK and EU legislation relating to protection and enhancement of ecology has been, or will be, complied with during the design and construction process.
- An appropriate management plan is produced covering at least the first 5 years after project completion. This should include details of the scope of the management plan, key responsibilities, and with whom these responsibilities lie.

©E^3 Ecology Ltd

LE06 Additional Requirements

- A 'Biodiversity Champion' has been nominated.
- The relevant site work-force have been trained on how to protect site ecology during the project.
- Record and monitor actions taken to protect biodiversity throughout key stages of construction.
- The client requires that a new ecologically valuable habitat, appropriate to the local area, be created.
- The client requires the contractor to programme site works to minimise disturbance to wildlife.
- The client requires actions to be taken to protect/enhance biodiversity.
- A Biodiversity Champion must have sufficient authority and time on site to influence activities and ensure that they have minimal detrimental impact on biodiversity.
- Local biodiversity expertise should be sought at, or before, the design stage
- Where a site is deemed to have no ecological value.

F2 Guide Credit Rating

Credit Reference LE03

The proposed construction zone is generally considered to be primarily of low ecological value comprising primarily species poor improved and coarse grassland, scrub, hedgerows and field trees.

However proposals include the removal of some semi mature trees and two mature trees of value to nesting birds subsequently as these features of ecological value are being lost **no credits can be awarded under LE03***.*

Credit Reference LE04

The site is considered to be primarily of low ecological value supporting improved grassland, coarse grassland, semi mature and mature trees. The proposed landscape master-plan includes features that will result in an increase in the ecological value of the site. Proposals include the provision of new areas of tree and shrub planting, and a wildlife garden with a seasonal pond and wildflower planting. However, only **one credit can be awarded under LE04**, as there is still a minor negative change (-8.63) in the average number of species across the site (see table below).

©E^3 Ecology Ltd

Plot/Habitat type	Approximate Area BEFORE development (m^2)	Total No. of Species	Approximate Area AFTER development (m^2)	Total No. of Species
Woodland	1050	2	7436	15
Shrub planting	0	0	1203	18
Hedgerow	1000	16	796	7
Individual trees	0	0	350	11
Wildflower grass	0	0	2000	19
Aquatic habitat	0	0	200	8
Amenity grass	0	0	26080	5
Coarse grassland	6800	10	0	0
Sports pitch	0	0	33457	2
Coarse grassland along burn	10	16	0	0
Improved grassland	78143	13	0	0
Scattered trees & scrub	6500	13	0	0
Building and hardstanding	0	0	21981	0
TOTAL SITE AREA:	93,503m^2		93,503m^2	
ECOLOGICAL VALUE (AREA WEIGHTED NO. PLANT SPECIES)	12.69		4.06	

Credit Reference LE05

The initial phase I habitat survey was undertaken in 2006 prior to works. The recommendations of the project ecologist have been implemented to ensure an increase in the value of the site to local wildlife.

One credit is available under LE05, further credits are considered unobtainable given the areas of hard standing and amenity grassland present within the proposed development.

Credit Reference LE06

In order to comply with UK and EU legislation all mitigation outlined within this report and the initial phase I report must be followed. In order to gain credits under LE6 all mandatory requirements and at least two additional requirements must be adopted.

In order to gain the second credit at least four of the additional recommendations should be followed. Assuming all mitigation outlined in this report is followed it is considered that proposals meet at least three of these (see red highlighted text).

Mandatory Requirements:

- A suitable qualified ecologist (SQE) has been appointed prior to commencement of activities on site. *This has been undertaken.*
- The SQE confirms that all UK and EU legislation relating to protection and enhancement of ecology has been complied with during the design and construction process. *As recommendations within the Environmental Statement have been followed, this can be deemed to have been achieved.*

©E3 Ecology Ltd

- A landscape and habitat management plan, appropriate to the site, is produced covering at least the first five years after project completion. The management plan will cover at least the first five years after project completion and is to be handed over to the building occupants. The plan should include:
    - Management of any protected features on site, i.e. retained trees and hedges and the ditch in the west.
    - Management of any new, existing or enhanced habitats
    - A reference to the current or future site level or local Biodiversity Action Plan.

Additional requirements:

The additional requirements that are suitable for the proposed development site are considered to be:

- The contractor is required to nominate a 'Biodiversity Champion' with the authority to influence site activities and ensure that detrimental impacts on site biodiversity are minimised in line with the recommendations of a suitably qualified ecologist, as defined in Ecological Value of Land and Protection of Ecological Features, LE3.
- The contractor is required to train all relevant site work-force on how to protect site ecology during the project. Specific training should be carried out for all the site workforce to ensure they are aware of how to avoid damaging site ecology. Training should be based on the findings and recommendations for protection of ecological features highlighted within a report prepared by a suitably qualified ecologist.
- The contractor is required to record actions taken to protect biodiversity and monitor their effectiveness throughout key stages of construction. The requirement commits the contractor to make such records available where publicly requested.
- The client requires that a new ecologically valuable habitat, appropriate to the local area, be created. This includes habitat that supports nationally, regionally or locally important biodiversity, and/or which is nationally, regionally or locally important itself; including any habitat listed in the UK Biodiversity Action Plan (UK BAP), Local Biodiversity Action Plan (LBAP), those protected within statutory sites (e.g. SSSIs), or those within non-statutory sites identified in local plans. *Wildflower seeded area are to be provided on site and lowland meadows are a priority habitat listed on the Barnsley LBAP; therefore this requirement will be implemented.*
- The client requires the contractor to programme site works to minimise disturbance to wildlife. For example, site preparation, ground works, and landscaping have been, or will be, scheduled at an appropriate time of year to minimise disturbance to wildlife. Timing of works may have a significant impact on, for example, breeding birds, flowering plants, seed germination, amphibians etc. Actions such as phased clearance of vegetation may help to mitigate ecological impacts. *The recommendations of a suitably qualified ecologist will be followed with timings aimed to minimise impacts on site biodiversity; therefore this recommendation will be implemented.*
- The client requires actions to be taken to protect/enhance biodiversity, take full account of the UK Biodiversity Action Plan (UK BAP) and use local biodiversity experts (e.g. the local wildlife trust) to help identify ecologically important habitats/species on site. A suitably qualified ecologist can advise on incorporating UKBAP issues into the project (information is also available at: www.ukbap.org.uk). *It is considered biodiversity on site will be enhanced*

©E3 Ecology Ltd

through the creation of species rich grassland; therefore this recommendation will be implemented.

F3 BREEAM Assessment Summary

Credit Reference	Maximum Points Available	Points Awarded
LE03	1	0
LE04	2	1
LE05	3	1
LE06	2	1 - subject to implementation of habitat management plan for the site and compliance with mitigation in this report. A further 1 dependent on evidence of training of contractors or position of site biodiversity champion.
Note: The credit rating indicated above should be taken as a guide only, the awarding of credits by the BREEAM assessor cannot be guaranteed.		

©E3 Ecology Ltd