



Angels Nursery, Yapton Road
Barnham, West Sussex

**

Extended Phase 1 Habitat Survey
Assessment for Bats
Badger Survey

November 2009

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LIABILITIES:

Whilst every effort has been made to guarantee the accuracy of this report, it should be noted that living creatures are capable of migration and whilst protected species may not have been located during the survey duration, their presence may be found on a site at a later date.

The views and opinions contained within this document are based on a reasonable timeframe between the completion of the survey and the commencement of any works. If there is any delay between the commencement of works that may conflict with timeframes laid out within this document, or have the potential to allow the ingress of protected species, a suitably qualified ecologist should be consulted.

It is the duty of care of the landowner/developer to act responsibly and comply with current environmental legislation if protected species are suspected or found prior to or during works.

Executive Summary

A PJC Consultancy Ltd was commissioned to carry out a series of surveys to assess the presence or likely absence of protected species and notable habitats on a proposed site for development: Angels Nursery, Yapton Road, Barnham, West Sussex.

B Hedgerows and scattered trees are located around the site boundary, and will largely be unaffected by the development. Bats may use this linear feature for navigation therefore these features should be enhanced as part of the design. These features are of site value only.

C Historic records show populations of reptiles (slow-worms and common lizards) recorded within grassland and open shrubby areas 100m south of the site. A survey will be needed to be carried out to establish the presence or likely absence of reptiles on this site. If reptiles are found they will be affected by the proposed development and mitigations should be implemented, involving relocation of reptiles and, if some reptile habitat can remain *in situ* post-development, the creation of habitat linkages with off-site reptile habitats.

D The badger survey was inconclusive due to large areas of scrub and bramble restricting access to surveyors. These areas will need to be gently strimmed with an ecologist present to a level where the ground can then be inspected during a survey by an ecologist.

E Habitat enhancement and planting schemes should be incorporated within the landscape design. This will include for example the supplementary planting of berry bearing shrub species (e.g. crab apple, dogwood and wild cherry) along parts of the hedgerow that have become degraded or additional planting on other parts of the site. Also the setting of bat and bird boxes in relevant habitats and the creation of hibernacula such as wood piles for reptile species.

1.0 Introduction

Background

1.1 PJC Consultancy Ltd (PJC) was commissioned by PPC Planning & Property Consultants Ltd to undertake an ecological appraisal of a site, Angels Nursery, located along Yapton Road, Barham, PO22 0BQ, West Sussex in November 2009. This report, including a Phase 1 Habitat Survey, a badger survey and an internal building survey and tree assessment for bats, has been required to support a planning application.

1.2 This report presents the results of the ecological survey in and around the site, which aims specifically to assess the site's potential to support protected species and habitats. Potential mitigation measures and recommendations for the site will be included within this report.

1.3 Section 2 of this report sets out the methodology of PJC's survey. The results of the desk and field survey are presented in Section 3. Discussion and implications for development are found in Section 4 with recommendations and enhancements for ecological mitigation. Finally the conclusions of this report are given in Section 5.

Site context and status

1.4 Angels Nursery is located at a site to the south-west of Yapton Road, in Barnham, West Sussex (National Grid Reference: SU961040). The site is located at the edge of Barnham Village, with agricultural fields located immediately to the south and west of the site.

1.5 The site supports trees, shrubs and hedgerows along the boundaries. The remaining area of the land supports improved grassland, hardstanding buildings, areas of gravel and glasshouses on-site.

Description of the proposed development

1.6 The proposal is for the residential development of the studied land, including associated play areas, open space and hard and soft landscaping.

1.7 It is understood by both parties that only the stated-above works will be undertaken. It is requested that if further works/disturbance need to be undertaken the client should contact PJC.

Planning Policies

1.8 National, regional and local planning policies may have an affect on the proposed development. The following paragraphs identify relevant planning policies and discuss these in the context of the site.

1.9 The United Kingdom Biodiversity Action Plan (UK BAP), published in 1994, is the national response of the Convention on Biological Diversity signed in Rio de Janeiro in 1992. The key objective of the UK BAP is avoidance of harm to ‘Species of Conservation Concern’.

1.10 Under the CROW Act (2000) it is now the duty of every Government department in carrying out its functions *“to have regard, so far as it is consistent with the proper exercise of those functions, to the purpose of conserving biological diversity in accordance with the Convention”*.

1.11 National policy guidance is provided by Planning Policy Statement 9, Biological and Geological Conservation (PPS 9, ODPM 08/2005), with the legislative provisions of these policies provided in the accompanying Circular (ODPM 06/2005, DEFRA 01/2005). Together these documents address the issue of development planning with respect to biodiversity conservation.

1.12 PPS 9, Paragraph 1(i) states:

“Development plan policies and planning decisions should be based upon up-to-date information about the environmental characteristics of their areas. These characteristics should include the relevant biodiversity...resources of the area. In reviewing environmental characteristics local authorities should assess the potential to sustain and enhance those resources.”

This report addresses the need for up to date information to support a planning application.

1.13 The South East including West Sussex is covered by the South East Plan. The Planning policy in relation to the ecology is given below:

Policy NRM 5: Conservation and Improvement of Biodiversity. This policy states that LPA and other bodies should avoid net loss of biodiversity and actively pursue opportunities to achieve a net gain across the region. This includes respecting international and European sites of nature conservation (undertaking AA where required), identifying areas of opportunity to enhance biodiversity reflecting ‘Regional Biodiversity Targets – Summary for 2010 and 2026’, and include green infrastructure developed and implemented in new developments.

The site does not lie within any international or European sites. Enhancements for the site are included within this report.

1.14 The Sussex Biodiversity Action Plan encourages the followings:

- *“Look for ways of building in biodiversity opportunities such as providing bird boxes or plants which are rich in nectar and pollen”*
- In term of management: *“cut hedgerows and scrub on a two or three year rotation. Cutting in early spring before the bird-nesting season will ensure that birds and mammals can take advantages of winter berries” / “Avoid spraying field edges to protect hedgerows, watercourses and rare arable plants which may be present in field margins” / “Consider coppicing or selective felling in woodland to open up areas of the canopy and promote a varied structure”.*

The plan also aims on maintaining the existing extent of BAP habitats such as native woodland by 2010, restore¹ areas of non-native plantations on ancient woodland sites to native woodland by 2015.

1.15 Arun District Local Plan 2003 covers the period up to 2011 but some policies have already expired, including the one relating to the landscape diversity (GEN27) and the policy relating to the protection of species (GEN30). All relevant policies relating to the ecology and habitats on site are listed below:

Policy GEN 28: Trees and Woodlands

‘Development will not be permitted if it would damage or destroy one or more trees protected by a tree preservation order, identified as ancient woodland or in a conservation area unless:

- *The removal of one or more trees would be in the interest of good arboricultural practice; or*
- *The benefits of the proposed development outweigh the amenity value of the protected trees.*

¹ Restoration = improve the condition of relict or degraded habitat.

Conditions may be used to ensure that, for any trees which are removed as part of a development, an equivalent number are planted on the site'

Policy GEN 29: Nature Conservation Across the District

'Development will only be permitted on sites which contain semi-natural habitats, features of nature conservation interest, or within wildlife corridors, where these can be largely retained and sympathetically incorporated into the scheme. Legal agreements may be used to offset the loss of, or impact on, any nature conservation resource present on the site prior to development.' This policies aims *'to protect undesignated sites from the harmful effects of development, in order to retain their value as a biodiversity resource'.*

1.16 Additionally, Arun District Local Plan 2003 mentions the following policies in regards to development:

Policy GEN 7: The Form of New Development

'Planning permission will only be granted for schemes displaying high quality design and layout. Development proposals involving new buildings or significant extensions or alterations must be accompanied by an illustrated written analysis of the site and its immediate setting, together with its relationship with the relevant townscape, landscape, wildlife and movement characteristics of the wider area. [...]'

2.0 Methodology

Desktop study

2.1 A desk top study search was completed using two internet-based mapping service (www.magic.gov.uk and www.natureonthemap.org.uk) for statutory designated sites and two internet-based aerial mapping services (www.multimap.com and maps.google.co.uk) were used to understand the habitats present in and around the survey area and habitat linkages and features (such as ponds, woodlands etc) within the wider landscape.

2.2 A 2km search was also completed using an internet-based database (www.searchnbn.net) for recent protected species records. Records older than 10 years were not considered.

Site inspection

2.3 PJC ecologists Alexia Tamblyn MA (Oxon) MSc MIEEM FRGS (NE bat licence holder 20092945) and Katie Glover BSc (Hons) MSc undertook an extended Phase 1 habitat survey, a badger survey and a building and tree assessment for bats on 6th November 2009. The surveyors identified the habitats present, following the standard 'Phase 1 habitat survey' auditing method developed by the Nature Conservancy Council (NCC). The site was surveyed on foot and the existing habitats and land uses were recorded on a map. In addition, the dominant plant species in each habitat were recorded, as was any evidence of protected species. The potential for the site to support protected species was also assessed and a badger survey and an internal survey of the buildings were undertaken.

2.4 The site was inspected for indications of the presence of protected species as follows:

- Scrub/grassland mosaic and potential hibernation sites for common reptiles;
- Relevant habitat for dormice such as dense deciduous woodland, coppice and thick shrubbery;
- The presence of suitable breeding places (water bodies) and hibernation features for great crested newts;
- The presence of suitable freshwater habitat for white-clawed crayfish;
- The presence of ditches for water voles;
- The presence of fresh water stream/rivers for otters;
- Suitable nesting places for birds;
- Other potential protected species.

2.5 The likelihood of occurrence is ranked as follows and relies on the current survey:

- Unlikely – while presence cannot be absolutely discounted, the site includes very limited or poor quality habitat for a particular species or species group. The site may also be outside or peripheral to known national range for a species;
- Low – on-site habitat of poor to moderate quality for a given species/species group. Presence cannot be discounted on the basis of national distribution, nature of surrounding habitats, habitat fragmentation, recent on-site disturbance etc;
- Medium – on-site habitat of moderate quality, providing all of the known key-requirements of given species/species group. Factors limiting the likelihood of occurrence may include small habitat area, habitat severance and fragmentation, disturbance;

- High – on site habitat of high quality for a given species/species group. Good quality surrounding habitat and good connectivity;
- Present – presence confirmed from the current survey or by recent, confirmed records.

2.6 The purpose of this assessment is to identify whether more comprehensive species surveys for protected species or habitats (Phase 2) are to be recommended.

Badger Survey

2.7 A badger survey was conducted on 6th November 2009 to assess the level of badger activity on site and locate any badger holes both within the site boundary and if possible within a 30m radius of the site.

2.8 The evaluation of badger activity was based on methodology developed for the National Survey of Badgers (Creswell et al., 1990) and includes searching for badger field signs such as setts, badger pathways, tracks (pawprints), dung piles with latrines, badger hairs and feeding signs such as snuffle holes.

2.9 During the survey, all habitats potentially suitable for badgers were systematically examined for evidence of badger activity including:

- Setts: several sett types may be present within a social group territory, ranging from a single hole to numerous interconnecting tunnels. Setts can be categorised according to Table 1 below into main, annexe, subsidiary and outlier (Wilson et al., 1997).
- Latrine sites: badgers characteristically deposit dung in pits, which may be located along the boundaries and with the social group territory. These sites serve as means of inter- and intra-group communication.
- Paths and runs: well used routes between setts and/or foraging areas. Often used by generations of badgers.
- Snuffle holes: areas of disturbed vegetation often formed by badgers foraging for ground dwelling invertebrates such as earthworms and larvae and the underground storage organs of plants.
- Hair: often found among spoil and bedding outside entrances to setts or snagged on fences (such as barbwire) along well-used runs.

- Footprints: easily distinguishable from other large mammal species. Often found along paths and runs or in spoil outside sett entrances.

2.10 Particular attention was paid to areas where the vegetation and/or the topography offered suitable sett sites such as embankments and wooded areas.

Table1: Conventions used in classifying badger setts (Wilson et *al.*, 1997)

Sett type	Definition
Main	In continuous use. Several holes with large spoil heaps and obvious paths leading to and from the sett and between sett entrances. Normally the breeding sett.
Annexe	Normally less than 150m from main sett and connected by well-used pathways. May comprise several holes though may not be in use all the time even if the main sett is very active.
Subsidiary	Usually at least 50m from main sett with no obvious paths connecting to other setts. Fewer holes (three or more) present compared to main and annexe setts and may only be used intermittently so not used continuously.
Outlier	Usually comprising one or two holes with little spoil at the entrance(s). No obvious paths connecting to other setts and may only be used sporadically. Often used by foxes and rabbits when not in use by badgers.

2.11 Additionally, the size, status and level of activity of each sett may be assessed by counting the number of entrance holes. The degree of use of each entrance hole can be classified as follows:

- Well-used holes: These are obviously in regular use: they are clear of any debris or vegetation and may have been excavated recently;
- Partially-used holes: These are not in regular use and have debris such as leaves and twigs in the entrance, or have moss and/or other plants growing in or around the entrance;
- Disused holes: These have not been in use for some time, are partially or completely blocked, and could not be used without clearance. If the hole has been disused for a long period the spoil heap may be covered in moss or plants.

Each hole for each sett was classified as per the above system.

Tree Assessment for bats

2.12 The trees on site were assessed for their potential to support roosting bats. The trees were assessed visually for evidence of bats as well as for features that increase the likelihood such as the following:

- Woodpecker holes, natural cracks and rot holes in trunks and branches;
- Frost cracks;
- Trunk and branch splits;
- Hollow sections of trunk and branches;
- Loose bark;
- Cavities beneath old root buttresses and coppice stools;
- Dense epicormic growth;
- Dense ivy cover.

Veteran trees typically exhibit many of these features and should usually be regarded as sites with clear potential, but any tree which possesses one or more such feature, may host bats. Any tree species can be suitable but oak and beech often seems to be the preferred option. However, bats rarely restrict themselves to one tree.

2.13 Roosts of bats in trees may be identified from the following field signs:

- Black stains beneath cracks, splits and other features where bat dropping have fallen;
- Dark marks at entrance points where bats have rubbed against the wood and left natural body oils;
- Feeding remains beneath roosts, such as insect wings;
- Chattering of bats;
- Bat droppings under access points;
- Scratch marks around a feature (cavity or split) caused by bat claws;
- Urine stains below the entrance or end of split;
- Large roosts or regularly used sites may produce an odour;
- Flies around the entrance, attracted by the smell of guano.

2.14 Trees were recorded as having high, medium or low potential following standard practise where:

- High potential = upward developing holes, splits and crack and woodpecker holes. Old trees with complex growth forms are of particular interest.
- Medium potential = downward developing holes, splits and cracks, features which could support several bats or a group of bats.
- Low potential = ivy covering only, few or no holes, splits or crevices.
- Confirmed roosts = evidence of use by bats (bats chattering, seen flying in and out of roost, presence of droppings etc).

Internal Roof Survey

2.15 Internal bat surveys were undertaken on 6th November 2009. The surveyors undertook an internal and external examination of all accessible buildings including the roof voids. Due to problems with access the roof void of one of the buildings was unable to be surveyed. The surveyors assessed the buildings visually and searched for evidence such as:

- Staining beneath or around a hole caused by natural oils in bat fur;
- Bat droppings beneath a hole, roost or resting area;
- Bat droppings and/or insect remains beneath a feeding area;
- Audible squeaking from within a hole;
- Insects (especially flies) around a hole;
- Dead bats.

2.16 With the exception of one building, all of the buildings within the red line boundary were accessed over the course of the day.

Limitations

2.17 It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no single investigation could ensure the complete characterisation and prediction of the natural environment.

2.18 The protected species assessment provides a preliminary view of the likelihood of protected species occurring on site, based on the suitability of the habitat and any direct evidence on site. It should

not be taken as providing a full and definitive survey of any protected species group. The assessment is only valid for the time when the survey was carried out. Additional surveys may be recommended if, on the basis of this assessment it is considered reasonably likely that protected species may be present.

3.0 Results

Desk study

3.1 The site does not fall within any statutory designated areas. Some designated areas are recorded within 10km radius of the site, including (list non-exhaustive):

- Fairmile Botton SSSI² and LNR³ – over 5km to the north-north-east of the site;
- Arundel Park SSSI – over 6km to the north-east of the site;
- Eartham Pit SSSI – over 6km to the north-west of the site;
- Halnaker Chalk Pit SSSI – over 6km to the north-west of the site;
- West Beach LNR – over 6km to the south-east of the site.

3.2 No recent records of any protected species were collected during the 2km on-line data search. However, reptiles may be present on or close to the site as 21 year-old records of slow-worm (*Anguis fragilis*), grass snake (*Natrix natrix*) and adder (*Vipera berus*), approximately 100m to the south of the site centroid, were collected during the data search. It is important to note that, even where data is held, a lack of records for a defined geographical area does not necessarily mean that there is a lack of ecological interest; the area may simply be under-recorded.

Site visit

3.3 The site is comprised mostly of previously developed land with the majority of habitats being buildings, outbuildings, glass houses and hardstanding. Scrub species dominate this disturbed habitat. Hedgerows and trees are found along the site boundary.

² SSSI = Site of Special Scientific Interest

³ LNR = Local Nature Reserve

3.4 The habitats found on site are mostly of ecological value at a site level only with plants that are both common and widespread. The most valuable habitat is the hawthorn and bramble dominated hedgerows with scattered oak and poplar species located along the southern and western boundaries.

Please refer to Appendix 1: Habitat survey map.

3.5 The site is bordered with hedgerows comprising of scattered mature trees. The northern perimeter is largely dominated by dogwood (*Cornus sanguinea*), blackthorn (*Prunus spinosa*), hawthorn (*Crataegus monogyna*) and field maple (*Acer campestre*). The east, south and western perimeters are largely dominated by hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), bramble (*Rubus fruticosus*) with scattered tree species such as goat willow (*Salix caprea*), pedunculate oak (*Quercus robur*), field maple (*Acer campestre*), silver birch (*Betula pendula*) and poplar sp (*Populus sp.*). Also noteworthy is an area in the western perimeter with tree species such as *Malus sp.* The ground flora of this wooded habitat is dominated by ground-ivy (*Glechoma hederacea*) and bristly ox-tongue (*Picris echinoides*).

3.6 The area of improved grassland (and scattered scrub) is dominated by bramble (*Rubus fruticosus*), common nettle (*Urtica dioica*), spear thistle (*Cirsium vulgare*), common ragwort (*Senecio jacobaea*), curled dock (*Rumex crispus*), autumn hawkbit (*Leontodon autumnalis*), white clover (*Trifolium repens*) and rosebay willowherb (*Chamaenerion angustifolium*). The dominant grass species recorded were common bentgrass (*Agrostis capillaris*) and yorkshire fog (*Holcus lanatus*).

3.7 Areas of scrub were present throughout the site. These were dominated by species such as spear thistle (*Cirsium vulgare*), bristly ox-tongue (*Picris echinoides*), hogweed (*Heracleum sphondylium*) common ragwort (*Senecio jacobaea*), curled dock (*Rumex crispus*) and common nettle (*Urtica dioica*).

3.8 The five glass houses present on the site were dominated by species such as bristly ox-tongue (*Picris echinoides*), common ragwort (*Senecio jacobaea*) and spear thistle (*Cirsium vulgare*).

Badger Survey

3.9 No badger setts were recorded in the parts of the site that were accessible. However the badger survey was inconclusive due to there being large areas of hawthorn and bramble potentially hiding any holes. Large areas of bramble were present in the south-western boundary and the north-western boundary of the site. Numerous rabbit holes were found within the site. A large hole was present in a large spoil heap of soft earth along the south-western boundary. No paw prints or badger hairs were recorded at any of these holes. Mammal paths were found across the site, again no evidence of these being from badgers was found.

Amphibians and Reptiles

3.10 Large areas of the site are improved grassland and scrub mosaic. These are considered to be suitable to potentially support common reptile species. However a survey will need to be carried out to establish presence or likely absence. The site has potential hibernacula areas for reptiles such as large wood piles, rubble piles and disused man-made materials such as corrugated iron scattered across the site.

3.11 The site does not support water bodies or areas to support common amphibian species.

Bat assessment

3.12 No signs of bats were found during the internal survey of the house on site. The empty house was not accessible and therefore unable to be surveyed. The outbuildings and glasshouses had negligible potential to support roosting bats.

3.13 The trees on site were surveyed for their potential to support bat species and given a value depending on this. In the north-western boundary a tree was assessed as having medium potential and in the south-western boundary a tree was deemed to have a medium potential for bats. Both of these trees were mature poplars covered with ivy.

4.0 Discussion and recommendations

Ecological value of the site

4.1 The site mainly supports habitats that are common and widespread throughout the UK such as improved grassland, scrub and hedgerows. The majority of the site consisted of disturbed land and the species which dominated the habitats were consistent with this. The habitat of interest within the site is the hedgerows with scattered mature tree species. It was noted that there were two small clusters of trees located within this site comprising of species such as pedunculate oak (*Quercus robur*) and cherry sp (*Prunus sp.*). Hedgerows can provide connectivity between patches of woodland and are important for nesting birds, reptiles and navigating bats. Mature trees can support many groups of species such as invertebrates, mammals and birds. Recommendations for the preservation and enhancement of these hedgerows and trees are listed within this report.

4.2 The areas of improved grassland have a high potential to support common reptiles which are of interest at a local level only.

Bats

4.3 The proposed development is unlikely to affect the favourable conservation status of bats in the area. Bats are likely to use hedgerow and tree lines for foraging and commuting activities but most of these will remain *in situ* after the site development. The site has two trees which have some possible roosting potential for bats. If these trees are required for felling it is advised that this is undertaken by tree surgeons who are familiar with the legal protection afforded to bats and under ecological watching brief to ensure that possible roosting areas in the trees are investigated prior to felling.

4.4 The outbuildings at Angels nursery had negligible potential to support roosting bats. One cottage on site was surveyed and no evidence of bats was found. Prior to any works commencing on these cottages it is recommended that an internal survey is conducted to ensure that there are no bats present within the roof void.

Badgers

4.5 Due to the badger survey being inconclusive the presence of badgers on the site cannot be ruled out however no evidence of badgers being on site was found. It is recommended that before any works can be carried out, the areas of bramble and nettles will need to be gently hand strimmed in the presence of an ecologist to a level where the ground can be inspected. This will enable a detailed badger survey to be carried out on the site on which the outcome will lead to the appropriate action to be taken in terms of the development.

Amphibians & Reptiles

4.6 The site has high potential to support reptile species due to the scrub and improved grassland mosaic and the presence of hibernacula areas, such as large wood piles, rubble piles and disused man-made materials such as corrugated iron scattered across the site. During the desktop study, 21-year old records were found for reptile species on an area 100m south of the site indicating the high potential for these reptile species to be present on the site. A presence or likely absence survey will need to be carried out prior to development.

Other Species

4.7 All occupied bird nests have legal protection from damage and destruction under the Wildlife and Countryside Act 1981, (as amended) with special legal provisions for pest species. Therefore, if tree or scrub clearance is undertaken during the nesting season (1st March to 1st October) it should be carried out under the supervision of an ecologist (ecological watching brief).

Habitat enhancement

4.8 The Yapton Road site has limited ecological value with the habitat present being majority hardstanding and scrub. However, hedgerows and mature scattered trees are of value to local wildlife and these areas on site should be enhanced. It is recommended that habitat management be undertaken within the site to favour species of mammal and reptiles

4.9 The site at Yapton Road could be further enhanced with the installation of bat and birds boxes to encourage local populations. A variety of bat and bird boxes should be hung on mature trees and will include:

- Schwegler 2F Bat box – this is suitable for Britain’s smaller bat species, such as pipistrelles;
- Shwegler 1FW Hibernation box – this is suitable for both summer maternity use and winter hibernation by bat species;
- Schwegler 1N Deep Nest Box – these are particularly useful in urban areas as they provide extra protection from predators, such as cats and magpies;
- Schwegler Bird House – This is suitable for all common garden birds and may be attached to a building wall as well as on trees;
- Schwegler 1B Bird Box – A general multi-purpose nest box suitable for many common garden species.

4.10 Enhancing the hedgerows present on the site could be achieved by planting native species of local provenance. Improvement in the quality of the hedgerow can be achieved by repairing any holes or breaks. Hedgerow planting should consist of a native mix of species; field maple (*Acer campestre*), hawthorn (*Crataegus monogyna*), hazel (*Corylus avellana*), common dogwood (*Cornus sanguinea*), crab apple (*Malus sylvestris*), elder (*Sambucus nigra*) and blackthorn (*Prunus spinosa*). Log piles, important habitats for small mammals and reptiles, can be incorporated within the design of the hedgerows.

4.11 The planting of plenty of native species within the landscape design for the development should include such species as hornbeam (*Carpinus betulus*), hazel (*Corylus avellana*), wild cherry (*Prunus avium*) and dogwood (*Cornus sanguinea*), planted apples (*Malus domestica*), pear (*Pyrus pyraeaster*), bird cherry (*Prunus padus*), plums (*Prunus domestica ssp domestica*). The grassland could be enhanced with some wildflower mix and the bulbs planted could include blue bells, daffodils (*Narcissus agg*), and snow drops (*Galanthus nivalis*). These are species which are valuable to wildlife.

5.0 Conclusion

5.1 The majority of habitats found on site are common and widespread with species which are found in disturbed habitats.

5.2 However, the hedgerows may provide excellent hibernation sites for reptiles, food sources for a wide range of wildlife, nesting sites for birds and bats may use them for navigation. Current planning should have little impact on this feature as it is incorporated into the design. This habitat may benefit from enhancements following the recommendations of this report (section 4).

5.3 Overall the proposed development will not have significant impact on the nature conservation value of the site or the local area, providing the recommended measures are taken prior to development with specific requirements for bats, reptiles and possibly badgers.

6.0 References

CIRIA C567 (2005) *Working with wildlife – site guide*. CIRIA, London.

Cresswell, P., Harris, S. and Jefferies, D.J. (1990) *The history, distribution, status and habitat requirements of the badger in Britain*. Nature Conservation Council, Peterborough.

English Nature (1994) *Species Conservation Handbook*. English Nature, Peterborough.

Froglife (1999) *Reptile Survey. An introduction to planning, conducting and interpreting surveys for snake and lizard conservation*. Froglife, Halesworth.

Gent, T. and Gibson, S. (1998) *Herpetofauna Workers' Manual*. JNCC, Peterborough.

Neal, E. and Cheeseman, C. (1996) *Badgers*. T & A D Poyser Ltd. London.

Wilson, G., Harris, S. and McLaren, G. (1997) *Changes in the British badger population, 1988 to 1997*. PTES, London.

Internet resources:

Google Map: maps.google.co.uk

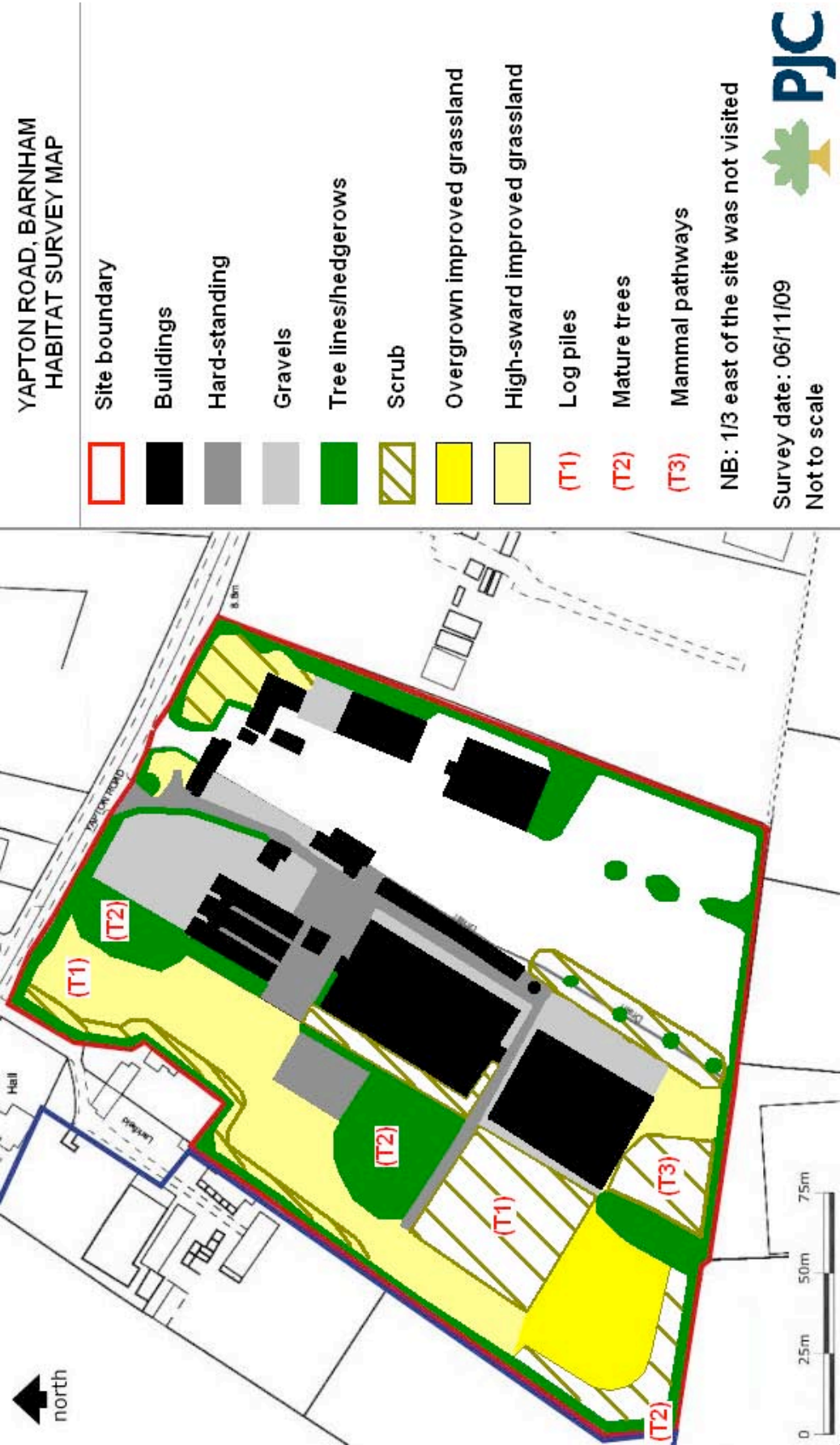
Magic Interactive Map: www.magic.gov.uk

Multimap: www.multimap.com

Nature on the map: www.natureonthemap.org.uk

NBN Gateway: www.searchnbn.net

Appendix 1: Habitat Map



Appendix 2: Photographs

Photo 1:
Hardstanding, glass houses dominate the landscape. Disturb species dominate.



Photo 2:
Scrub dominates some of the boundaries



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