

T4 ECOLOGY LTD

ECOLOGY CONSULTANCY SERVICES, MALDON, ESSEX



Preliminary Ecological Appraisal Incorporating Bat Survey Inspection

66, The Plain

Epping

CM16 6TW

Prepared for:

Manor Properties (Bishops Stortford)
Ltd.

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1. Survey Finding and Recommendations Summary

The search undertaken as part of the desk study concluded that the proposal would not be considered reasonably likely to have any adverse impact upon statutory and non-statutory designated locations.

In summary, the site comprises an occupied residential dwelling and garden, bounded by identical such land use on all sides. The site and surrounds are subject to management and disturbance as would be reasonably expected in such a land use context.

Since the house has occasionally been used as a place of shelter by bats, a European Protected Species Licence may be required for its development. It is therefore advised that at least two dusk/dawn emergence and return surveys are conducted from mid-May onwards to determine whether the building is still being used by bats. The surveys, which should be at least two weeks apart, should be undertaken in favourable weather conditions. If bats are found to be using the building, a third survey would be required and mitigation designed accordingly if a roost is present.

It is not considered reasonably likely that great crested newt or reptile species would be adversely affected by the development proposals. No further surveys have been advised.

No active or inactive badger setts were found, with no evidence of badger activity identified. No surveys have been advised. However, general appropriate precautionary measures for the demo/construction phases have been advised in section 5.2.

Appropriate recommendations in respect of due diligence relating to nesting birds and ecological enhancements have been made in section 5.2 of the report.

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2. Introduction

2.1. Phase 1 Brief

T4 Ecology Ltd was commissioned by Manor Properties (Bishops Stortford) Ltd to undertake an ecological assessment at 66, The Plain, Epping, Essex, CM16 6TW.

This report contains the findings of a Preliminary Ecological Appraisal-PEA. The Purpose of a PEA is to identify the potential for presence of protected species on a site, in line with European legislation, UK law and the requirements of The National Planning Policy Framework (NPPF)(2012). The brief of the ecological survey was to assess the habitats found on site and identify the potential for presence on site of protected species.

The site-based element is supported by a desktop study undertaken to identify presence of Statutory/National/Local designations or protected species within the vicinity (up to a 5KM radius) of the site. The final part of the project brief was to identify and make recommendations as appropriate for any further surveys required to determine presence/absence of protected species on site if the survey determined that presence of a protected species on site was considered to be reasonably likely.

2.2. Bat Survey Brief

In addition, this report also contains the results of a Preliminary Roost Assessment (PRA) undertaken at the same time as the PEA, comprising an internal/external inspection of the existing building/s. Bats are a strictly protected species under European Legislation. In this regard, given presence of buildings where demolition/alteration works are proposed, the inspection was undertaken in order to meet the specific requirements of the legislation to inform design, mitigation and if appropriate, European Protected Species License Applications.

2.3. Development Proposals & Planning Context

The proposal is for the demolition of the existing dwelling and construction of a replacement dwelling.

The following plans have been viewed as part of the assessment:

- Proposed Drawings – MP Architects.

Given availability of proposal plans, it was possible to undertake an assessment of any potential impacts resultant from the specific proposal and recommend further works/appropriate mitigation as appropriate in section 5.2 of this report.

2.4. Scope of Survey

The purpose of this report is to provide an independent opinion of the likely presence of protected species on a site to inform the client of their obligations, and to assist the Local Planning Authority (LPA) in their determination of a planning application.

It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation could ensure the complete characterisation

and prediction of the natural environment. This PEA does not constitute a full botanical survey or a Phase 2 preconstruction survey for Japanese Knotweed. In this regard, this survey 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. Additional surveys may be required if it is considered reasonably likely a protected species may be present.

The survey presents a snapshot in time, and therefore makes an assessment purely of what was seen at the time the survey was undertaken. The PEA does not therefore make any retrospective analyses.

3. Methodology

3.1. Survey

Habitats on site were recorded in accordance with the general principles and methods provided in the Handbook for Phase 1 Habitat Survey, JNCC 1993. The survey methodology involves undertaking a site visit to gain an understanding of the site ecology and surrounding characteristics. During the site visit the recording and mapping of habitat types and ecological features present on site is undertaken, including the identification of the main species present. The potential for presence of protected species is assessed as part of the overall methodology, and further advice/surveys recommended as considered appropriate based on the evidence obtained.

The survey works were undertaken in accordance with Guidelines for Preliminary Ecological Appraisal produced by the Chartered Institute of Ecology and Environmental Management (CIEEM) in December 2017.

Methods are also in accordance to the general principles contained within British Standards Institute (BSI) BS42020 – Biodiversity-Code of Practice for Planning & Development.

A habitat plan is included as Annex 3. Photographs are included within Annex 2.

3.1.1. Survey Timings and Conditions

The survey was undertaken by Consultant Ecologist Peter Harris BSc (hons) MCIEEM on the 15th March 2019. The bat inspection was undertaken by John Dobson Bsc FBNA also on the 15th March 2019. Weather conditions were overcast, with an ambient air temperature of 9°C.

Peter Harris is a full member of the Chartered Institute of Ecology & Environmental Management (CIEEM) and subject to the CIEEM Professional Code of Conduct. The surveyor is licenced by Natural England for surveying great crested newts. The surveyor is an ecologist with over 12 years of experience, and has been involved in a wide range of projects from single dwelling developments to large strategic urban renewal schemes subject to full Environmental Impact Assessment (EIA).

As an ecologist for over 12 years, Peter has obtained significant experience in respect of a wide range of protected and priority species. Species worked with include reptiles (surveys/mitigation), great crested newt (surveys/mitigation), badger (surveys/mitigation/licencing), dormouse (surveys) and bat, encompassing a wide range of survey and monitoring techniques. These include internal/external inspections/Preliminary Roost Assessment (PRA), in addition to involvement with successful bat mitigation license applications working in conjunction with specialist organisations.

John Dobson is a Bat Ecologist and Natural England Licensed Bat Worker & Trainer, Licence reference No. 2015-15258-CLS-CLS. John has been elected a Fellow of the British Naturalists' Association (FBNA) and received the David Bellamy Award for natural history in May 2015. John is a highly experienced bat and mammal ecologist, is the Essex County Mammal Recorder and author of '*The Mammals of Essex*'.

3.2. Desktop Study & Records Search

To gain an understanding of any designations on/around the site in addition to the historical presence of protected species, desktop data has been obtained from the following sources:

3.2.1. Historical Protected Species Data

Records were requested from the Essex Field Club (EFC) Essex Recorders Partnership data search service. The information supplied by EFC is compiled using county records held by the County Recorders of the Essex Field Club, Butterfly Conservation, Essex Amphibian & Reptile Group, Essex Bat Group and provide information upon the records that were available at the time the search was undertaken. Therefore, a protected species records data search was undertaken for records of protected species for a minimum of 1km and a maximum of a 2km radius of the site grid reference, in addition to any other pertinent information relevant to the site.

Records were also provided by Essex Mammal Recorded John Dobson.

Use of data is in accordance with CIEEM Guidelines for Accessing & Using Biodiversity Data, March 2016.

3.2.2. Designations

A desktop study was undertaken through MAGIC (Multi-Agency Geographic Information System for Countryside). The search looked to identify the presence of statutory designated sites within a 2km radius (e.g. Special Areas of Conservation (SACs), Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR).

3.2.3 Additional Information

Freely available on-line mapping information and Ordnance Survey Maps were consulted as part of the background assessment.

3.3. Bat Survey Methodology

The PRA was undertaken employing methods based on the guidance described in the Bat Workers' Manual, English Nature's Bat Mitigation Guidelines and updated Bat Conservation Trust Bat Surveys Guidelines for Professional Ecologists (2016).

However, the first page of all three editions includes the following: *The guidelines should be interpreted and adapted on a case-by-case basis according to site-*

specific factors and the professional judgement of an experienced ecologist. Where examples are used in the guidelines, they are descriptive rather than prescriptive.

Surveyors are expected to make judgements in respect of methodology appropriate to the survey conditions/evidence noted, and make conclusions based upon experience.

3.3.1 External/Internal Inspection

The first section of the survey involved an external inspection of the external surfaces of the buildings to identify any features that could be potentially be utilised by bats for roosting purposes. Such features may include small gaps and openings in brick work/roof structure, broken or missing tiles, or gaps in the soffits. During the external inspection, the buildings were also examined for key indicators of bat activity, such as droppings/staining in areas such as window ledges, walls other suitable external structural features.

The second section of the survey involved an inspection of internal areas of the buildings where safe access was possible. The purpose of the inspections was to identify whether there is any evidence of bat activity/roosting. Again, indicators of evidence such as droppings, fur deposits, scratching and staining were searched for, in addition to features such as insect remains that may have been brought into a building by a bat. In addition, issues such as structural integrity of the buildings, and whether the building has structural features such as enclosed/hidden roof spaces are taken into account.

An Xtend & Climb Pro Ladder and a ProVision 300 endoscope were available to inspect crevices in brickwork and around beams.

An assessment of any vegetation potentially affected by the development proposals was also undertaken where appropriate.

4. Results

4.1. Desk study Results.

Record searches are by no means exhaustive, and certain species including reptiles and great crested newt are under recorded nationally. In addition, many of the records can be considered too old or may be unverified. However, the records provide an indication of the species of note historically found.

Site Details

- The site is located at Central Grid Reference: TL 47007 02977
- Postcode: CM16 6TW

4.1.1. Designations

The site is not situated within, nor bounding any statutory designated location.

There are the following statutory designated locations are situated within a 5km radius of the site:

- Epping Forest Special Area of Conservation (SAC) – Approx. 3.0km south west.
- Epping Forest Site of Special Scientific Interest (SSSI) – Approx. 150m north and east.
- Thornwood Common Flood Meadows Local Nature Reserve (LNR) – Approx. 1.5km north.
- Roughtalleys Wood LNR – Approx. 1.5km east.
- Church Lane Flood Meadow LNR – Approx. 3km north west.
- Weald Common Flood Meadow – 4km east.
- Parndon Woods & Common LNR – 4.8km north west.

Impact Assessment

Whilst it is acknowledged that there are important statutory designations within a 5km radius of the site and a SSSI within 500m, it is noted that the site is neither situated within nor bounding any designated locations. In addition, the proposal relates to the demolition of an existing dwelling and construction of new residential development within what is already a developed, suburban residential location (see section 4.2), with the site bounded by residential dwellings and gardens/road on all sides. Consequently, it is not considered reasonably likely the proposal would result in any adverse impact upon statutory designated locations.

Designations-Non-Statutory

Local Wildlife Sites (LWS) or Sites of Importance for Nature Conservation (SINC) are used in the planning system to protect areas that have substantive nature conservation value at a local level.

The site is not directly situated within nor bounding an LWS location.

Impact Assessment

The site is not situated within nor bounding any LWS locations. Given the surrounding land uses (see section 4.2) and small scale of the project as described, it is not considered reasonably likely that the proposal would have any adverse impact upon any non-statutory designated locations.

4.1.2. Biological Records

The records have been analysed as part of the desk research and considered as part of the conclusions and subsequent recommendations of this report. A summary of some of the records is provided below:

Terrestrial Mammal

Bats

Species	No. of Records	Date Range	Distance
Serotine	2	1992-2016	1.2km
C. Pipistrelle	12	2004-2017	0.3km
S. Pipistrelle	3	2004-2011	0.3km
Pipistrelle sp.	4	1993-2008	0.5km
B. Long eared	2	2004-2016	0.3km

Since the early 1980s, the Essex Bat Group has monitored the status and distribution of bats in this area. Records occurring within a 2km radius of the site are as follows:

24 Jul 1994	Brown long-eared bat found by member of public
27 Jun 1994	Pipistrelle colony in house
24 Jul 2005	Noctule recorded foraging
24 Jul 2005	Common pipistrelle recorded foraging
24 Jul 2005	Soprano pipistrelle recorded foraging
09 Jun 2007	Noctule recorded foraging
09 Jun 2007	Common pipistrelle recorded foraging

09 Jun 2007	Common pipistrelle recorded foraging
27 Jan 1989	Brown long-eared bat found at hotel
14 Jul 1992	Serotine found in High Street premises
18 Nov 2002	Common pipistrelle found by member of public
09 Jun 2007	Common pipistrelle recorded foraging
08 Jul 2015	Common pipistrelle recorded foraging
11 Jul 2015	Common pipistrelle recorded foraging

Hedgehog

The search identified 4 records dating from 1994-2013, with the closest recorded 0.7km from site.

Eurasian Badger

The search identified 2 records dating from 1997 & 1998 at a closest distance of 0.6km from site.

Hazel Dormouse

No records of the species were identified within the search radius.

Amphibian/Reptile

Great Crested Newt

3 records were identified dating from 1986 to 2009, with the closest record 0.6km from site.

Common Toad

1 record was identified from 2002, 0.6km from site.

Common Frog

2 records were identified between 2009 and 2016, with the closest 0.6km from site.

Palmate Newt

5 records were identified between 1983 and 2015, with the closest 0.6km from site.

Slow Worm

1 record was identified dating from 2008, 0.8km from site

Grass Snake

7 records were identified between 1996 and 2008, with the closest 0.8km from site.

Common Lizard

1 record was identified dating from 1997, 0.6km from site.

4.2. Survey Results & Analysis

4.2.1 Site & Surroundings Description & Habitats

The site is situated approximately 1.2km to the north east of Epping town centre and comprises a plot of land approximately 0.075ha in size.

The site is situated in a residential location. To the north, the site is bounded by residential apartments and large hardstanding car park, whilst to the east the site is bounded by the dwellings and associated gardens of dwellings situated on The Gables. No. 66a, The Plain is located to the south (dwelling and garden), with The Plain (roadway) situated to the west. More recently constructed residential dwellings are situated west of The Plain.

The dwelling is situated in a north to south delineation in the approximate centre of the site, with a detached garage located to the south. Buildings are considered further in section 4.3.1.

To the west of the house is hard standing gravel driveway/parking area with introduced shrubs, scrub and ephemeral weeds situated between the hard standing. To the east of the house is a rear garden area comprising hard standing patio areas, mown garden lawn, and introduced shrubs. Garden tree and shrub species comprising sycamore, Himalayan birch, sycamore, holly, eucalyptus and photinia are situated in a planting bed along the western boundary of the site.

In summary, the site comprises an occupied residential dwelling and garden, bounded by identical such land use on all sides. The site and surrounds are subject to management and disturbance as would be reasonably expected in such a land use context.

4.3. Potential for Protected Species Impact with Proposals

The site was assessed for the potential presence of protected species that may have a material impact upon the development proposals.

The ecological value of the site in respect of the potential presence of and impact upon protected species is considered further in the following sections:

4.3.1. Bats & Internal/External Inspections

All bat species are strictly protected under the Wildlife and Countryside Act 1981 and the Conservation Regulations (Habitat Regulations).

The locations of building described is illustrated on the plan contained within Annex 3.

The House

The survey building is a detached residential property with a tiled roof lined with sarking boards and pale, rendered walls. The building is aligned N-S. The survey found that part of the roof volume was taken up by living accommodation, with one dormer

at the front of the building and two at the rear. The three dormers had roofs of corrugated tin. The remaining roof space comprised a void that extended along the length of the building. Although the loft was dusty and draughty, there were several old droppings of Brown Long-eared Bats on the floor of the loft and on stored items. None of the evidence was of recent origin, and there was also a covering of cobwebs on the rafters, conditions that are usually a deterrent to colonisation by bats. Externally, there was a tight seal along the eaves and gables; however, there were several gaps around the roof tiles, notably near the chimney at the rear of the property. There was no evidence such as droppings or staining on the pale walls where the presence of bats would have been readily apparent.

Garage

A brick and block built single garage with a flat, concrete roof is located to the south of the property. The interior receives daylight illumination via two windows in the northern wall, conditions in which bats seek out dark areas or crevices in which to roost. The lack of such features meant that this building was unsuitable as a roosting place for bats. Similarly, a garden shed with an unlined, tiled roof on the northern side of the property had no features that might offer potential roosting places for bats.

Vegetation/Foraging/Commuting

There is no vegetation on site affected that has crevices, loose bark or woodpecker holes that might be colonised by bats. No trees with roosting potential would be lost or affected by the development proposal.

Impact Assessment

Bats are inquisitive, highly mobile animals, which constantly investigate their surroundings, evaluating good feeding areas and potential roosting opportunities. Where suitable habitat such as woodland, woodland edge or sheltered pasture occurs, bats will travel up to several kilometres to take advantage of this resource. To reach favoured sites, small bats will follow linear landscape features such as hedgerows, streams and lanes etc. The absence of such features can make an otherwise suitable site inaccessible to bats. In addition, new roosts will become established in such areas - examples being the rapid colonisation of artificial roost boxes placed in conifer forests or the occupation of new houses by nursery colonies of pipistrelle bats within a year or two of their completion.

Since the house has occasionally been used as a place of shelter by bats, a European Protected Species Licence may be required for its development. It is therefore advised that at least two dusk/dawn emergence and return surveys are conducted from mid-May onwards to determine whether the building is still being used by bats. The surveys, which should be at least two weeks apart, should be undertaken in favourable weather conditions. If bats are found to be using the building, a third survey would be required and mitigation designed accordingly if a roost is present.

Further details are provided in section 5.2.

4.3.2. Badgers

Badgers and active setts are afforded protection under the Protection of Badgers Act 1992.

No evidence of badger activity including active or inactive setts, latrines or footprints was identified in the proposed development area, or wider areas bounding site.

Impact Assessment

No active or inactive setts were found, with no evidence of badger activity identified in any location.

No further surveys are considered necessary or appropriate. However, general best practice precautions in respect of the demolition and construction phases have been provided in section 5.2 re: transitory presence of the species/transitory mammal species.

4.3.3. Nesting Birds

Nesting birds and their eggs are protected under the Wildlife & Countryside Act 1981.

The buildings and ground vegetation on site offer negligible potential opportunities for nesting.

Nesting resource could be suitably maintained and enhanced by new landscaping and planting and use of both integral and external nesting boxes where appropriate in new buildings.

Impact Assessment

As general precautionary guidance, the bird breeding season is from March to September. If demolition/works to vegetation is proposed during the season, a check should be made for nests prior to works commencing. If nests are present, they should be left intact and undisturbed until the young have fledged.

New opportunities for nesting birds should be provided through provision of nesting boxes on buildings/trees, in addition to new planting/infill planting as part of the proposal. It is concluded that nesting potential could be improved over and above the current condition of the site.

Guidance is provided in section 5.2 and Annex 4.

4.3.4. Reptiles

As described in section 4.1, the site comprises an existing residential dwelling in a suburban area. The site contains a garden with lawn, and is bounded by identical such land use on 4 sides in addition to a road. As such, the site does not provide potentially suitable reptile habitat. In addition, the site is bounded by residential dwellings/gardens, and a road therefore is isolated by surrounding land uses from potentially suitable habitat making colonisation/presence of the species unlikely. The site is not considered reasonably likely to provide a habitat for the species, nor have

connectivity with a potentially suitable habitat that would enable colonisation. The species would not be considered at risk as part of the proposal.

Impact Assessment

As identified above, the proposed development area is not considered to provide potentially suitable reptile habitat as a result of existing land/surrounding land uses and management regimes. Based upon the evidence above, it is not considered reasonably likely that reptile species are present on site given lack of suitable habitat on site/connectivity to suitable offsite habitats. Therefore, the risk of potential impact of the proposals upon the conservation status of reptile is negligible. The risk of potential impact of the proposals upon individual reptiles is also considered to be low. No further surveys are necessary in respect of reptile species.

4.3.5. Great Crested Newt

Great crested newt is strictly protected under the Wildlife and Countryside Act 1981 and the Conservation Regulations (Habitat Regulations).

No ponds or water bodies are situated on site nor would be lost to the proposal. Given the location within a suburban area subject to identical land uses, the site is not considered reasonably likely to provide potential terrestrial dispersal habitat, nor form part of a dispersal network for the species.

Distance from a potentially suitable water body and intervening land use is a critical factor in determining suitability for the species. As such, a search using mapping data was undertaken to identify ponds within a 500m radius. A lake is situated within woodland approximately 180m to the east, with a further woodland lake approximately 200m east. However, given the residential land use and 2x roads situated between the site and the lakes, in addition to lack of suitable habitat on site, it is not considered reasonably likely that the site has terrestrial connectivity with these or any other offsite water bodies.

Whilst it is acknowledged that small numbers of GCN have been known to range significant distances (1km) to colonise new ponds, sometimes over a number of years if connective habitat is suitable, research undertaken by English Nature¹ (now Natural England) indicates that it is most common to encounter them within 50m of a breeding pond, with few moving further than 100m unless significant linear features or suitable terrestrial habitat is involved, when great crested newts can be encountered at distances of between 150m – 200m. At distances greater than 200-250m great crested newts are hardly ever encountered. This valuation of habitats according to distance from great crested newt breeding ponds has also been adopted as part of Natural England's European Protected Species application form, with specific reference to the guidance provided by Natural England in WMLa14-2.

It is acknowledged that there is no way of identifying whether there are other small ponds that may be hidden within any nearby dwellings and not shown on maps. None were immediately visible from site/analysis of mapping data. Identification of

such ponds located on private property and not shown on maps cannot be reasonably expected as part of this survey/desk study.

Impact Assessment

Based upon the evidence above, it is not considered reasonably likely that great crested newt would be affected by or at risk from the development proposals. The proposals are of small scale, and relate to an already developed site. Risk of harm to the species is not considered a reasonable likelihood.

Consequently, it is considered that the risk of potential impact of the proposals upon the conservation status of great crested newt is negligible. The risk of potential impact of the proposals upon great crested newt is also negligible. No further surveys are considered necessary or appropriate in respect of this species at this site.

4.3.6 Hazel Dormouse

Hazel dormouse is strictly protected under the European Habitat Regulations and the Wildlife and Countryside Act 1981.

No potentially suitable habitats would be lost/impacted as a result of the proposal, and the site does not have connectivity with recorded habitats.

Impact Assessment

No further surveys are considered necessary or appropriate and the proposal would not have any impact upon the species.

4.3.7 Invertebrates/Plant life

Given the precedent of existing land use and location, the site is unlikely to support significant assemblages of invertebrates or a varied plant life. No further surveys are considered to be necessary or appropriate.

Installation of new landscape planting within the consented proposal would provide invertebrate habitat on the site post-development. Night scented plant species such as evening primrose, honeysuckle and jasmine would also attract moths in the evening, which would in turn attract foraging bats.

Recommended general enhancements are identified in section 5.2.

4.3.8 Other Species

The site is not situated in a location, nor provides potentially suitable habitat where other protected species such as, water vole and otter would be considered at risk. No further surveys/precautions are considered necessary or appropriate.

4.3.9 General Wildlife & Biodiversity

It is acknowledged that the wider site and development area may be utilised by a range of transitory wildlife species including fox, hedgehog etc.

Impact Assessment

To enable wildlife to continue using the development area post development, it is advised that boundaries remain relatively open such that wildlife can continue to radiate in the area. This includes the use of permeable boundaries such as tree lines and hedgerows, in addition to leaving hedgehog gaps in any new fencing proposals.

As part of appropriate due diligence, it is advised that the full range of recommendations identified in section 5.2 be fully implemented, and all reasonable enhancements incorporated into a development proposal such that biodiversity is maximised as part of the development.

5. Conclusion & Recommendations

5.1 Conclusion

The search undertaken as part of the desk study concluded that the proposal would not be considered reasonably likely to have any adverse impact upon statutory and non-statutory designated locations.

In summary, the site comprises an occupied residential dwelling and garden, bounded by identical such land use on all sides. The site and surrounds are subject to management and disturbance as would be reasonably expected in such a land use context.

Since the house has occasionally been used as a place of shelter by bats, a European Protected Species Licence may be required for its development. It is therefore advised that at least two dusk/dawn emergence and return surveys are conducted from mid-May onwards to determine whether the building is still being used by bats. The surveys, which should be at least two weeks apart, should be undertaken in favourable weather conditions. If bats are found to be using the building, a third survey would be required and mitigation designed accordingly if a roost is present.

It is not considered reasonably likely that great crested newt or reptile species would be adversely affected by the development proposals. No further surveys have been advised.

No active or inactive badger setts were found, with no evidence of badger activity identified. No surveys have been advised. However, general appropriate precautionary measures for the demo/construction phases have been advised in section 5.2.

Appropriate recommendations in respect of due diligence relating to nesting birds and ecological enhancements have been made in section 5.2 of the report.

5.2 Recommendations and Further Action

Following the survey, the following recommendations have been made to ensure obligations in respect of protected species are met/the site is enhanced for the benefit of biodiversity if developed. The recommendations are considered to be appropriate and in context with the size of the proposals and based upon the findings of the impact assessment section of the report (4.3.1 – 4.3.9).

Bat Surveys

- Since evidence of bats was found in the survey building, two dusk/dawn surveys should be conducted from mid-May onwards (season mid-May – September inclusive) to determine the extent of the bat population using the building/identify absence and that bats are no longer using the building. If

bats are identified, a third survey would be required, and mitigation designed accordingly.

- Surveys should be undertaken in suitable conditions, should be at least two weeks apart and carried out with a licenced bat worker. The results of these surveys will determine whether a European Protected Species Licence is required, and what level of mitigation will be required to satisfy Natural England that the bat population can be maintained or enhanced at the site.

Construction Phase Precautions

- To protect any radiating mammals, it is recommended that any trenches be covered over with wooden sheeting at night and fencing off the demolition/construction zone and associated compounds would be advisable during the demolition/construction phase.

Nesting Birds

- As general guidance, the bird breeding season is from March to September. If works to buildings/vegetation are proposed during the season, a check should be made for nests prior to works commencing. If nests are present, they should be left intact and undisturbed until the young have fledged.

Enhancements

- As part of the proposals, there are opportunities to enhance the proposals through provision of habitat boxes (bird/bat) on trees, in addition to new planting/hedgerow enhancement as part of the landscaping scheme. Suggested habitat boxes/plant species are provided within Annex 4.
- To enable wildlife to continue using the development area post development, it is advised that boundaries remain relatively open such that wildlife can continue to radiate in the area. This includes the use of permeable boundaries such as tree lines and hedgerows, in addition to leaving hedgehog gaps in any new fencing proposals.

1. Annex 1 – Legislation & Planning Policy

1.1. Habitat Regulations

The Conservation of Habitats and Species Regulations transpose Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (Habitats Directive) into English law, making it an offence to deliberately capture, kill or disturb wild animals listed under Schedule 2 of the Regulations. It is also an offence to damage or destroy a breeding site or resting place of such an animal (even if the animal is not present at the time).

1.2. Wildlife & Countryside Act

The Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act (CROW) 2000 and the Natural Environment and Rural Communities Act (NERC) 2006, consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive), making it an offence to:

- Intentionally kill, injure or take any wild bird or their eggs or nests (with certain exceptions) and disturb any bird species listed under Schedule 1 to the Act, (which includes Cirl Bunting) or its dependent young while it is nesting;
- Intentionally kill, injure or take any wild animal listed under Schedule 5 to the Act; intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any wild animal listed under Schedule 5 to the Act; intentionally or recklessly disturb certain Schedule 5 animal species while they occupy a place used for shelter or protection;
- Pick or uproot any wild plant listed under Schedule 8 of the Act.

Sites of Special Scientific Interest (SSSI) are designated under this Act.

Special Protection Areas (SPA) are strictly protected sites, designated under the Birds Directive, for rare and vulnerable birds and for regularly occurring migratory species.

1.3. Natural Environment & Rural Communities Act

The NERC 2006 places a duty on authorities to have due regard for biodiversity and nature conservation during the course of their operations.

1.4. National Planning Policy Framework (NPPF)

The NPPF has replaced PPS9 with paragraphs 163-170 in respect of conservation and biodiversity. ODPM 06/2005 remains in place. NPPF places a duty on planners to make material consideration to the effect of a development on legally protected species when considering planning applications, with a focus upon sustainable development.

1.5. Biodiversity Action Plans

The UK Biodiversity Action Plan (UKBAP) (Anon, 1995) was organised to fulfil the Rio Convention on Biological Diversity in 1992, to which the UK is a signatory. A list of

national priority species and habitats has been produced with all listed species/habitats having specific action plans defining the measures required to ensure their conservation. Regional and local BAPs have also been organised to develop plans for species/habitats of nature conservation importance at regional and local levels.

1.6. Local Development Plans

County, District and Local Councils have Development Plans and other policy documents that include targets and policies which aim to maintain and enhance biodiversity. These are used by Planning Authorities to inform planning decisions.

1.7. Natural England Standing Advice

Natural England has adopted national standing advice for protected species. It provides a consistent level of basic advice which can be applied to any planning application that could affect protected species. It replaces some of the individual comments that Natural England has provided in the past to local authorities.

1.8. Bats

All species of bat found in the UK are protected by law and are designated as a protected species. Paragraph 98 of Circular 06/2005 states that *'the presence of a protected species is a **material consideration** when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat.'*

Bats are protected under UK legislation under The Wildlife and Countryside Act 1981 through inclusion on Schedule 5 -Protected bat species in Britain. On a European basis, bats are subject to protection under the Conservation (Natural Habitats &c.) Regulations.

The November 2017 the Conservation (Natural Habitats &c.) Regulations make it an offence to:

- Intentionally or deliberately kill, injure or capture (take) bats.
- Intentionally or recklessly damage or destroy bat roosts or disturb bats.

A bat roost is defined as 'any structure or place which is used for shelter or protection', whether or not the bats are utilising the roost at the time. European protected animal species and their breeding sites or resting places are protected by the Habitat Regulations.

In this regard, it is an offence for anyone to deliberately capture, injure or kill any such animal or to deliberately take or destroy their young/eggs as applicable. It is also an offence to damage or destroy a breeding or resting place of a European Protected Species and it is an offence to possess a European Protected Species.

The threshold above which a person will commit the offence of deliberately disturbing a wild animal of a European protected species has been raised. A person will commit

an offence only if he deliberately disturbs such animals in a way as to be likely to significantly affect:

- The ability of any significant groups of animals of that species to survive, breed, or rear or nurture their young, or;
- The local distribution of abundance of that species.

The existing offences such as obstruction of a bat roost, low-level disturbance, and sale which cover European Protected Species under the Wildlife and Countryside Act (1981) continue to apply.

2. Annex 2 – Photographs



Photo 1: Front (western) elevation



Photo 2: Rear (eastern) elevation



Photo 3: Southern elevation



Photo 4: Looking southwards in the loft



Photo 5: Looking northwards in the loft



Photo 6: Showing cobwebs on rafters



Photo 7: Showing cobwebs on rafters



Photo 8: Showing potential access points for bats



Photo 9: The single garage



Photo 10: The interior of the garage had no features that might be occupied by bats



Photo 11: The interior of a small shed had no features that might be occupied by bats



Photo 12: Property Frontage



Photo 13: Rear Garden

3. Annex 3 – Habitat Plan



4. Annex 4 – Recommended Enhancements

Recommended enhancements/suitable planting species.

The following hedgerows/shrub and smaller tree species could be utilised accordingly:

- Hawthorn *Crataegus monogyna*
- Ash *Fraxinus excelsior*
- English Elm *Ulmus procera*
- Field Maple *Acer campestre*
- Hazel *Corylus avellana*
- Dog Rose *Rosa canina*
- Elderberry *Sambucus nigra*
- Holly *Illex aquifolium*
- Blackthorn *Prunus spinosa*
- Rowan *Sorbus aucuparia*
- Guelder Rose *Viburnum opulus*
- Silver Birch *Betula pendula*
- Alder *Alnus glutinosa*
- Cotoneaster spp.
- Spindle *Euonymus europaeus*

The following species could also be considered within the landscaping scheme as appropriate, given their wildlife friendly/native characteristics:

- Viburnum sp.
- Californian Lilac *Ceanothus* sp.
- Lavender *Lavandula angustifolia*
- Hebe Sp.
- Privet *Ligustrum vulgare*
- Dogwood *Cornus sanguinea*

In addition, vertical areas on sides of buildings and/or boundary fences could be utilised to provide additional habitat. Suitable species to grow on vertical habitats could include:

- Ivy *Hedera helix*
- Clematis *vitalba*
- Honeysuckle *Lonicera periclymenum*

Bulbs and small, wildlife friendly annuals and biennials can also be utilised within wildlife friendly and garden planting where considered appropriate by the landscape architect. Suitable species could include:

- *Hypericum perforatum*
- Wood Anemone *nemorosa*
- Tustan *Hypericum androsaemum*
- Foxglove *Digitalis grandiflora*
- Bluebell *Hyacinthoides non-scripta*

Dependant on soil condition, British Seed House RE1 mix (or similar product) is recommended for installation of the species rich grass areas where required. Alternatively, turf already seeded with wild flower seed could be utilised.

Recommend species are likely to include:

- Slender Creeping Red Fescue *Festuca rubra ssp litoralis*
- Crested Dogs Tail *Cynosurus cristatus*
- Common Bent *Agrostis capillaris*
- Cocksfoot *Dactylis glomerata*
- Meadow Fescue *Festuca pratensis*
- Golden Oat Grass *Trisetum Flavascence*
- Sweet Vernal Grass *Anthoxanthum odoratum*
- Ribwort Plantain *Plantago lanceolata*
- Yarrow *Achillea millefolium*
- Common Knapweed *Centaurea nigra*
- Meadow Sweet *Filipendula ulmaria*
- Lady's Bedstraw *Galium verum*
- Ox eye daisy *Leucanthemum vulgare*
- Self Heal *Prunella vulgaris*
- Meadow Buttercup *Ranunculus acris*
- Bulbous Buttercup *Ranunculus bulbosus*
- Agrimony *Agrimonia eupatorium*
- Rough Hawkbit *Leontodon hispidus*
- Yellow Rattle *Rhinanthus minor*
- Common Birdsfoot Trefoil *Lotus corniculatus*
- Salad Burnett *Sanguisorba minor*
- Harebell *Campanula rotundifolia*
- Cowslip *Primula deorum*
- Field Poppy *Papaver Rhoeas*
- Wild Thyme *Thymus Serpyllum*
- Quaking Grass *Briza Media*
- Pignut *Conopodium majus*

Using Seeds

Seed Bed Preparation

Whilst seeds can be sown at any time, the best time to prepare the meadow bed is summer. The top grass, and top inch of top soil should be removed if possible. The most important factor is to ensure that the seed bed is weed free, and level using roller/rake. Also, remove stones in areas of seedbed, Wildflower meadows from seed are most successful when soil fertility is low and weeds can be less vigorous.

Sowing Seed

The best time to sow the seeds is in spring or early autumn. Spread seeds in a sand mix using a spreader for even distribution at a density of approx. 4 grams per sq. metre.

Using Plugs

Use of wildflower plugs is generally more reliable, and gives quicker results than using seed. However, over large areas, density of plugs can be reduced, with 1 or 2 plugs per square metre. Generally, plugs can be installed at any time but spring/autumn are optimum months.

Using Turf Impregnated with seeds

Use of turf less dependent on soil conditions as the seed are already in place. This enables more variety of species. However, to be successful, it should be installed in free draining areas that do not become water logged.

Wildflower Plugs and seeds are available from a number of online suppliers:

www.wigglywigglers.co.uk

www.bostonseeds.co.uk

www.wildflowershop.co.uk

www.reallywildflowers.co.uk

www.wildflower.org.uk

www.meadowmania.co.uk

Sections of turf already seeded are also available from the following suppliers:

www.meadowmat.co.uk

www.wildflowerturf.co.uk

www.wigglywigglers.co.uk

Habitat Boxes.

The use of bird and bat boxes has been recommend. Suitable products include:



Standard Bird Box-Suitable for a wide variety of species.
Can be installed in trees and buildings.



Schwegler 2F Bat box. Suitable for attachment to trees.

Buildings-Integral Bat Boxes

The construction of new buildings presents the opportunity for integral bat boxes, installed during the construction phase.

Products such as the Ibstock Range (www.ibstock.com) would be appropriate for installation in the eaves of the new dwellings, as installed as illustrated below:



Ibstock Integral Bat Box

It is considered that the installation of one such integral bat box on the south/east facing eave of each new building would be appropriate, installed in accordance with the specific manufacturers recommendations.

Aftercare

Bats are a protected species, and any object they utilise for roosting is therefore also protected. Therefore, following installation the bat boxes should not be disturbed, as disturbance may result in an offence under the Wildlife and Countryside Act (1981) and the European Habitat Regulations (2010). Bat boxes are very robust and will not require maintenance, and therefore are at their most effective if left undisturbed.

Buildings-Integral Bird Boxes

Integral bird boxes should be installed on the north/east facing eaves. A system such as the Bird Brick House (www.birdbrickhouses.co.uk) as illustrated below is recommended, installed in accordance with the manufacturers specific recommendations.



Bird Brick House System

Installation

The following should be taken into account in consideration during the installation of bird boxes suitable for a wide variety of common garden species.

- These should be placed away from cats, and at least 2m from ground level.
- These should where possible be located away from direct sunlight, ideally facing between north and east (not south), away from cats, and at 2-5m height.
- They should also be out of reach of windows when placed upon buildings.