

Ainsworth Care Home, Knowsley Road, Ainsworth, Bury, BL2 5PT

ECOLOGICAL SURVEY AND ASSESSMENT (including a Licensed Daylight Bat Survey)

July 2021

[ERAP (Consultant Ecologists) Ltd ref: 2021-117]

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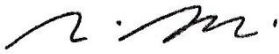
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Document Control

Survey Type:	Surveyors¹	Survey Date(s)
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Revised and issued	Catie Haworth B.Sc. (Hons) Graduate Ecologist	29 th June 2021
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¹ Licence reference numbers

Bats

Brian Robinson Natural England Class Survey Licence (bats, Level 2) Registration Number 2015-13161-CLS-CLS

SUMMARY

Introduction and Scope

- i. This ecological survey and assessment presents the ecological, biodiversity and nature conservation status of land at Ainsworth Care Home, Knowsley Road, Bury. The assessment was requested in connection with proposals to construct two residential properties with associated access and curtilage and to refurbish the existing gate house building.
- ii. This report presents the results of a desktop study and data search, extended Phase 1 Habitat Survey and a licensed daylight bat survey carried out in May 2021. Further surveys are required at the building and at Trees 1 and 3 to determine the presence / absence of roosting bats. Otherwise, the scope of survey undertaken is appropriate to identify potential ecological constraints, the remit of mitigation required and opportunities for biodiversity associated with the development proposals.

Results of Survey and Assessment

- iii. The site comprises a unit of unmanaged grassland with edges of scrub and tall herb vegetation, an ornamental hedgerow and boundary trees. A dilapidated gate house building (Building 1) is located at the south-eastern end of the site.
- iv. The proposals will have no adverse effect on statutory or non-statutory designated sites for nature conservation.
- v. No Priority Habitats are present at the site. In terms of each habitat's importance in a geographical context, the unmanaged grassland with edges of Bramble scrub and tall herb vegetation are of 'site' value. The boundary trees are also of 'site' value, and provide opportunities for nesting birds, foraging bats and birds and will contribute to habitat connectivity across the site.
- vi. It is proposed to retain and protect as many of the boundary trees as possible and to accommodate a landscape buffer at the western and southern site boundaries. Recommendations relating to the retention and protection of the boundary trees are presented at **Section 5.2**.
- vii. It is recommended that the ornamental hedgerow is replaced with a native species-rich hedgerow. Opportunities for the enhancement of the landscape buffer, recommendations for the proposed hedgerows and landscape planting, and measures to maintain habitat connectivity at the site are presented at **Section 5.7**.
- viii. Rhododendron, a species listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), is present at the eastern site boundary. It is an offence to cause the spread of this species in the wild; guidance on the eradication of Rhododendron is described in **Section 5.3**.
- ix. Reasonable Avoidance Measures (RAMs) are recommended for the protection of wildlife at the site such as badger, amphibians and hedgehog and are presented at **Section 5.4**.
- x. Building 1 is considered to be of 'moderate' suitability for use by roosting bats. Further surveys are required to determine the presence / absence of roosting bats at the building to inform the planning decision; the scope and timing of the further surveys are presented at **Section 5.5**.
- xi. Trees 1, 2 and 3 support features suitable for use by roosting bats. The proposals will retain Tree 2, however the removal of Trees 1 and 3 is unavoidable. Further surveys are necessary at Trees 1 and 3 with regards to roosting bats; recommendations and appropriate measures to protect roosting bats are presented at **Section 5.5**.
- xii. Habitats at the site are suitable for foraging and nesting birds and foraging bats; recommendations for the protection of breeding birds and enhancements at the site for nesting birds and roosting bats are presented at **Sections 5.5 and 5.6**.

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- xiii. No other protected species have been detected.

Recommendations

- xiv. The recommendations in **Section 5.0** outline all the mandatory measures and additional actions to be applied to ensure compliance with wildlife legislation, the National Planning Policy Framework (NPPF) and best practice.
- xv. The proposals will secure an opportunity to implement beneficial measures such as habitat enhancement and creation that will safeguard habitats for wildlife such as birds and bats, with the aim of providing a net gain in biodiversity in accordance with the principles of the NPPF.

Conclusion

- xvi. Further surveys are required in respect of roosting bats at the site. Otherwise, it is concluded that the proposals are feasible and acceptable in accordance with ecological considerations and relevant planning policy. The proposals present an opportunity to secure ecological enhancement for wildlife associated with residential development.

1.0 INTRODUCTION

1.1 Background and Rationale

- 1.1.1 ERAP (Consultant Ecologists) Ltd was commissioned by JPE Consultancy Limited to carry out an ecological survey and assessment of land at Ainsworth Care Home, Knowsley Road, Ainsworth, Bury, BL2 5PT (hereafter referred to as the 'site'). The Ordnance Survey (OS) grid reference at the centre of the site is SD 76417 10902. An aerial image of the site and its surrounding habitats is appended at **Figure 1** (source image: ESRI World Imagery).
- 1.1.2 The assessment was requested in connection with a planning application construct two residential properties with associated access and curtilage and to refurbish the existing gate house building.

1.2 Scope of Works

- 1.2.1 The scope of ecological works undertaken in May 2021 comprised:
- A desktop study and data search for known ecological information at the site and the local area;
 - An Extended Phase 1 Habitat Survey and assessment;
 - Assessment of the ecological value of the habitats within the site with the use of the National Vegetation Classification (NVC) and the Ratcliffe criteria, as presented in *A Nature Conservation Review* (Ratcliffe, 1977);
 - Survey and assessment of all habitats for relevant statutorily protected species¹ and other wildlife including badger (*Meles meles*), barn owl (*Tyto alba*), great crested newt (*Triturus cristatus*), bird species and reptiles;
 - A licensed daylight bat survey of the building and trees;
 - The identification of any potential ecological constraints on the proposals and the specification of the scope of mitigation and ecological enhancement required in accordance with wildlife legislation, planning policy guidance and other relevant guidance; and
 - The identification of any further surveys or precautionary actions that may be required to inform the progression of the site through the planning process.

2.0 METHOD OF SURVEY

2.1 Desktop Study and Data Search

- 2.1.1 The following sources of information and ecological records were consulted:
- MAGiC: A web-based interactive map which brings together geographic information on key environmental schemes and designations, including details of statutory nature conservation sites;
 - Greater Manchester Local Records Centre (GMLRC); and
 - Greater Manchester Biodiversity Action Plan (BAP).

¹ In accordance with *Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and Their Impact on the Planning System* (Ministry of Housing, Communities & Local Government, 2005) developers should not be required to undertake surveys for protected species unless there is reasonable likelihood of the species being present and affected by the development. In this instance (for example), no watercourses are present within or adjacent to the site, therefore the need for survey and assessment for water vole (*Arvicola amphibius*) and otter (*Lutra lutra*) is not required.

2.2 Vegetation and Habitats

- 2.2.1 An Extended Phase 1 Habitat Survey of the site was carried out by Brian Robinson and Catie Haworth on 10th May 2021. The weather was dry with occasional light showers and sunny intervals, a light air (Beaufort scale 1) and 11°C at 9am.
- 2.2.2 A habitat and vegetation map was produced for the site and the immediate surrounding area at a scale of 1:500 (refer to **Figure 2**). The mapping is based on the Joint Nature Conservation Committee Phase 1 Habitat Survey methodology (JNCC, 2010) with minor adjustments to illustrate and examine the habitats with greater precision.
- 2.2.3 On site habitat mapping was assisted via use of GPS technology, using *Former Ainsworth Nursing Home, Knowsley Road, Ainsworth. 20/1242/701 - Existing Site Plan* (JPE Consultancy Limited, 2020) and ESRI World Imagery as base plans.
- 2.2.4 The plant species within the site boundary were determined with estimates of the distribution, ground cover, abundance and constancy of individual species. The estimation of abundance was based on the DAFOR system, where D = Dominant, A = Abundant, F = Frequent, O = Occasional and R = Rare, this being a widely used and accepted system employed by ecological surveyors. The terms L = Locally and V = Very were additionally used to describe the plant species distributions with greater precision.
- 2.2.5 Stands of vegetation and habitats were described and evaluated using the National Vegetation Classification (NVC). The NVC provides a systematic and comprehensive analysis of British vegetation and is a reliable framework for nature conservation and land-use planning.
- 2.2.6 Habitats within the site were assessed in accordance with the UK Habitats Classification / UKHab (Butcher, et al., 2020). The UKHab has been designed to function at two scales: fine scale (25m² or 5 metres length) and large scale (400m² or 20 metres length). It has been considered for the purposes of this survey that the fine scale of 25m² and 5 metres length is appropriate.
- 2.2.7 Searches were made for uncommon, rare and statutorily protected plant species, those species listed as protected in the *Wildlife and Countryside Act 1981* (as amended) and species which are indicators of important and uncommon plant communities. Plant nomenclature follows *New Flora of the British Isles 3rd Edition* (Stace, 2010).
- 2.2.8 Searches were carried out for the presence of invasive species, including those listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), including Japanese Knotweed (*Fallopia japonica*), Indian Balsam (*Impatiens glandulifera*) and Giant Hogweed (*Heracleum mantegazzianum*).

2.3 Animal Life

Badger

- 2.3.1 The survey area for badger covered the site (as annotated on **Figures 1 and 2**) and extended to accessible land within a radius of 50 metres from the site boundary. Private gardens / land were excluded from the survey.
- 2.3.2 The survey was conducted in accordance with guidance presented within *Badgers and Development* (Natural England, 2007) and *Badgers: surveys and mitigation for development projects* (Natural England, 2015).
- 2.3.3 The following signs of badger activity were searched for:
 - a. Sett entrances, e.g. entrances that are normally 25 to 35cm in diameter and shaped like a 'D' on its side;
 - b. Large spoil heaps outside sett entrances;

- c. Bedding outside sett entrances;
- d. Badger footprints;
- e. Badger paths;
- f. Latrines;
- g. Badger hairs on fences or bushes;
- h. Scratching posts; and
- i. Signs of digging for food.

- 2.3.4 Habitats within and surrounding the site were assessed in terms of their suitability for use by foraging and sheltering badger in accordance with their known habitat preferences as detailed in current guidance and *Badger* (Roper, 2010).

Bat Species

Daylight Survey

Survey Personnel

- 2.3.5 The site was assessed for its suitability to support roosting bats by Brian Robinson, Natural England Class Survey Licence WML CL18 (Bat Survey Level 2), Registration Number 2015-13161-CLS-CLS, as assisted by Catie Haworth. The surveyor's qualifications and experience meet the criteria as defined in the *Technical Guidance Series Competencies for Species Survey: Bats* (CIEEM, 2013).

Former Gatehouse (Building 1)

- 2.3.6 The survey was carried out in accordance with standard methodology including the *Bat Mitigation Guidelines* (Mitchell-Jones, 2004), the *Bat Workers' Manual 3rd Edition* (Mitchell-Jones & Mcleish, 2004) and *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)* (Collins, J. (ed), 2016).
- 2.3.7 An inspection of the external surfaces, walls and roof of the building was carried out to find potential bat roosting habitat or accesses into internal areas where roosts may be present. Searches for evidence of bat presence in the form of droppings, urine stains, feeding signs, grease marks and other evidence were also carried out.
- 2.3.8 The internal survey involved an examination of the accessible internal areas (including roof voids) to find roosting bats or evidence of past use of the building by bats such as droppings and prey remains.
- 2.3.9 A list of equipment used is detailed at **Table 2.1**, below:

Table 2.1: Survey Equipment used during Daylight Bat Survey

Ladders
LED Lenser P14 torch
Panasonic DMC- FT1 digital camera
8x20 binoculars
Ridgid Micro Inspection Camera Borescope CA-100

- 2.3.10 The suitability of the building has been assessed in accordance with Table 4.1 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*, (Collins, J. (ed), 2016), taking into account any presence of gaps suitable for access by bats, features suitable for use by roosting bats within the building (including crevice dwelling species and species which can roost in the open in roof voids), and the suitability of the surrounding habitats for use by foraging and commuting bats.

Trees

2.3.11 A preliminary assessment of the trees within the site was conducted to assess their suitability for use by roosting bats, and to inform whether further surveys or precautionary measures were required.

2.3.12 Trees were assessed from the ground using binoculars and a high-powered torch. Each tree was searched for the presence of the following features:

Woodpecker holes, rot holes, hazard beams, other vertical or horizontal cracks or splits in stems and branches, partially decayed platey bark, knot holes, man-made holes, tear-outs, cankers in which cavities have developed, other hollows or cavities, including butt-rots, double-leaders forming compression forks with included bark, gaps between overlapping stems or branches, partially detached Ivy (Hedera helix) with stem diameters in excess of 50mm and bat, bird or dormouse (Muscardinus avellanarius) boxes.

2.3.13 Terms used to describe any features present follow (where possible) those outlined and described in *Bat Tree Habitat Key, 2nd Edition* (Andrews, H (ed), 2013) and *Bat Roosts in Trees: A Guide to Identification and Assessment for Tree-care and Ecology Professionals* (BTHK, 2018).

Habitat Assessment for Commuting / Foraging Bats

2.3.14 Habitats within and adjacent to the site were assessed for their value and suitability for commuting and foraging bats in accordance with Table 4.1 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*, (Collins, J. (ed), 2016). Reference has been made to the categories and descriptions / examples, presented at **Table 2.2**, below.

Table 2.2: Consideration of Suitability of Foraging and Commuting Habitat for Bats

Suitability	Commuting Habitat	Foraging Habitat
Negligible	Negligible habitat features on site likely to be used by commuting bats.	Negligible habitat features on site likely to be used by foraging bats.
Low	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated i.e. not very well connected to the surrounding landscape by other habitat.	Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree or patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.	Habitat that is linked to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	Continuous, high-quality habitat that is well connected to the wider landscape and is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. Habitats close to and connected to known roosts.	High-quality habitat that is well-connected to the wider landscape and is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Habitats close to and connected to known roosts.

Bird Species

2.3.15 Bird species observed and heard during the survey were recorded.

2.3.16 Habitats throughout the site and in the immediate surrounding area were assessed for their value to roosting, feeding and nesting birds, as indicated by the amount of shelter, feeding value, woody vegetation structure and species diversity of tree and shrub species in the site.

2.3.17 The presence of any sign of barn owl within the building was searched for during the internal inspection conducted on 10th May 2021. The building was searched for pellets, faecal splashes and feathers which may indicate use by roosting or nesting barn owl in accordance with *The Barn Owl Conservation Handbook* (Barn Owl Trust, 2012) and *Barn Owl Tyto alba Survey Methodology and Techniques for use in Ecological Assessment. Developing Best Practice in Survey and Reporting* (Shawyer, 2011).

Great Crested Newt

Desktop Search for Ponds

- 2.3.18 In accordance with current Natural England guidance (Natural England, 2020) all ponds within an unobstructed 500 metres of a site should be considered for their suitability to support breeding great crested newts. The potential of the proposed development to impact upon any great crested newt population(s) whose breeding ponds are within 500 metres must be considered.
- 2.3.19 The search of habitats in the wider area up to a distance of 500 metres from the site boundary revealed the presence of five ponds and two waterbodies, as detailed in **Table 2.3**, below.

Table 2.3: Ponds within 500 metres of the Site

Pond Reference	OS Grid Reference	Distance from Site Boundary	Location (refer to Figure 1)
1	SD 76269 10890	90 metres	New pond located in field to the west of the site.
2	SD 76073 10754	325 metres	Field pond located to the south-west of the site.
3	SD 76704 10552	395 metres	Field pond located to the south-east of the site.
4	SD 76607 10477	420 metres	Field pond located to the south-east of the site.
5	SD 76304 11271	345 metres	Field pond located to the north of the site.
6	SD 7672 1121	325 metres	Top Lowercroft Reservoir located to the north of the site.
7	SD 7703 1097	455 metres	Middle Lowercroft Reservoir located to the east of the site.

Consideration of Requirement for Further Survey

- 2.3.20 The requirement for further survey at each pond was then assessed using the following criteria:
- Presence of dispersal barriers to great crested newt movements between ponds and the site, as detected during the walkover survey;
 - Distance of ponds from the site, and the potential influence of the proposed development of the site on any populations of great crested newt (if present at ponds), using the Natural England rapid risk assessment tool; and
 - Presence of other ponds which may form metapopulations and/or alter the influence of the site on ponds at greater distances.

Presence of Dispersal Barriers

- 2.3.21 There are no significant dispersal barriers between the site and Ponds 1 to 5.

Consideration of Distance of Ponds from Site and Relative Size of Site

- 2.3.22 To inform the requirement for further surveys, the Natural England Rapid Risk Assessment tool from GCN *Method Statement WML-A14-2 (Version April 2020)* (Natural England, 2020) has been completed, as presented at **Table 2.4**, below.
- 2.3.23 In accordance with *Former Ainsworth Nursing Home, Knowsley Road, Ainsworth. Drawing No. 18/1242/704 – Feasibility Design FD01 – Proposed Site Plan* (JPE Consultancy Limited, n.d.), hereafter the 'proposed site plan', the area to be developed lies more than 100 metres from the nearest pond (Pond 1), and the area to be developed within the site is approximately 0.2 hectares (comprising two residential dwellings and associated access and gardens). A landscape buffer is proposed between the site and Pond 1.
- 2.3.24 The tool has been completed based on the distances of the ponds from the area to be developed, and the size of the area to be developed within the site (0.2 hectares (or 'Ha')). The rapid risk assessment tool assumes that great crested newt are present.

Table 2.4: Rapid Risk Assessment Result

Component	Likely Effect	Notional Offence Probability Score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	0.1 - 0.5 ha lost or damaged	0.1
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
	Maximum:	0.1
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

2.3.25 The Natural England Rapid Risk Assessment indicates that the development area is sufficiently small and distant from *all* ponds that any proposed development is highly unlikely to impact upon any breeding great crested newt populations associated with ponds in the wider area. Further surveys for great crested newt are not required.

2.3.26 As best practice and for completeness, and owing to the close proximity of Pond 1 to the site, a habitat suitability index assessment of the Pond 1 was carried out.

Habitat Suitability Index Assessment

2.3.27 Pond 1 was assessed using the Habitat Suitability Index (HSI) (Oldham, et al., 2000) by Catie Haworth. The pond was examined with reference to the ten HSI scoring criteria, which are: **SI₁**: Geographical location; **SI₂**: Pond area; **SI₃**: Pond drying; **SI₄**: Water quality (as indicated by the diversity of aquatic plants and invertebrates); **SI₅**: Shade; **SI₆**: Waterfowl; **SI₇**: Fish; **SI₈**: Abundance of other ponds within a one kilometre radius; **SI₉**: Quality of terrestrial habitat; and **SI₁₀**: Macrophyte cover (i.e. aquatic and emergent plants). The survey was conducted in accordance with *ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index. Amphibian and Reptile Groups of the United Kingdom* (ARG UK, 2010).

2.3.28 The assessment followed guidance in relation to interpreting HSI scores, following the categorical scale shown at **Table 2.5**, below.

Table 2.5: Pond Habitat Suitability Index Categories

HSI Score	Pond Suitability for Great Crested Newt
<0.5	Poor
0.5 – 0.59	Below average
0.6 – 0.69	Average
0.7 – 0.79	Good
>0.8	Excellent

Reptile Species

2.3.29 The site and its surroundings were assessed in terms of their suitability for use by reptile species using the important characteristics for reptiles outlined in the draft document '*Reptile Mitigation Guidelines*' (Natural England, 2011), and the *Reptile Habitat Management Handbook* (Edgar, et al., 2010). These habitat characteristics are outlined in **Table 2.6**, below.

Table 2.6: Important Habitat Characteristics for Reptiles

1. Location (in relation to species range)	7. Connectivity to nearby good quality habitat
2. Vegetation Structure	8. Prey abundance
3. Insolation	9. Refuge opportunity
4. Aspect	10. Hibernation habitat potential
5. Topography	11. Disturbance regime
6. Surface geology	12. Egg-laying site potential

Other Wildlife

- 2.3.30 Evidence of other wildlife (including Priority Species) observed whilst on site (but for which specific surveys were not made) was recorded and has been included in this report where it is considered of relevance to the planning application.

2.4 Survey and Reporting Limitations

- 2.4.1 The daylight bat survey was completed at the start of the bat activity survey season, when any field signs of bats may have weathered from the external elevations of the building. Daylight bat inspections can be completed at any time of year, however and it is considered that a reliable assessment of the suitability of the building for use by roosting bats has been possible.
- 2.4.2 No further survey limitations were experienced.
- 2.4.3 All measurements within this report are approximate only, and have been estimated whilst on site or calculated using mapping software (QGIS) or internet-based mapping services such as MAGiC and Google Earth.

2.5 Evaluation Methods

- 2.5.1 The habitats, vegetation and animal life were evaluated with reference to standard nature conservation criteria as described in *A Nature Conservation Review* (Ratcliffe, 1977) and *Guidelines for the Selection of Biological SSSIs* (Bainbridge, et al., 2013). These are size (extent), diversity, naturalness, rarity, fragility, typicality, recorded history, position in an ecological or geographical unit, potential value and intrinsic appeal.
- 2.5.2 Habitats have been assessed to determine whether they meet those described in *UK Biodiversity Action Plan: Priority Habitat Descriptions* (Maddock, A (ed), 2008); these lists are used to help draw up the statutory lists of Priority Habitats, as required under Section 41 of the *Natural Environment and Rural Communities (NERC) Act 2006*. Where suitable, the ecological value of the habitats present has been assessed using the terms outlined in *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018).
- 2.5.3 Government advice on wildlife, as set out in the *National Planning Policy Framework* (Ministry of Housing, Communities and Local Government, 2019) and associated government circulars has been taken into consideration. Legislation relating to protected species, such as those listed under Schedules 1, 5, 6 and 8 of the *Wildlife and Countryside Act 1981* (as amended) and *The Conservation of Habitats and Species Regulations 2017*, is referenced where applicable, and any impacts to protected species are evaluated in accordance with current guidance.
- 2.5.4 The presence of any Priority Species, as listed under Section 41 of the *Natural Environment and Rural Communities (NERC) Act 2006* is noted, and habitats are assessed in terms of their suitability and value for these species. The presence of habitats and/or species listed by the Greater Manchester Biodiversity Action Plans has been taken into account in the evaluation of the site.

3.0 SURVEY RESULTS

3.1 Desktop Study and Data Search

Statutory Designated Sites for Nature Conservation and SSSI Impact Risk Zones

- 3.1.1 The site has no statutory designation for nature conservation.
- 3.1.2 The site lies within a Site of Special Scientific Interest (SSSI) Impact Risk Zone for the West Pennine Moors SSSI, located 5 kilometres to the north-west of the site. The SSSI Impact Risk Zone requires the Local

Planning Authority to consult with Natural England on likely risks from the following development categories (Ordnance Survey, 2021):

Airports, helipads and other aviation proposals; and

Livestock and poultry units with floorspace greater than 500m², slurry lagoons greater than 750m² and manure stores greater than 3500 tonnes.

- 3.1.3 The proposals do not meet the above development categories for which the Local Planning Authority must consult Natural England on likely risks to the relevant designated sites as a consequence of the proposed development.

Non-statutory Designated Sites for Nature Conservation

- 3.1.4 The site has no non-statutory designation for nature conservation.
- 3.1.5 The site lies within 1 kilometre of two Sites of Biological Importance (SBIs), namely Ponds off Cockey Moor Road SBI and Cockey Moor Wood Pasture and Marsh SBI. Ponds of Cockey Moor Road SBI is located 370 metres to the south-east of the site and is designated for its ponds. Cockey Moor Wood Pasture and Marsh SBI is located 615 metres to the east and is designated for its wood pasture and grassland habitats.
- 3.1.6 The presence of the SBIs within proximity to the site is considered further at **Section 4.2** below.

Priority Habitats Inventory, National Habitat Network

- 3.1.7 The Priority Habitats Inventory² was checked via MAGiC map; no Priority Habitats are noted for the site. The site lies within Network Enhancement Zone 2 of the National Habitat Network (All Habitats Combined).

Protected and Notable Species

- 3.1.8 GMLRC hold no records of protected and notable species for the site.
- 3.1.9 Records of protected and notable species for a 1 kilometre radius of the site are summarised at **Table 3.1** below.

Table 3.1: Records of Protected Species Within a 1 Kilometre Radius of the Site

Taxon Group	Species Name and Designations ¹ and Notes
Amphibians	Common toad (<i>Bufo bufo</i>). PS: 5 records, the closest of which is located 500 metres to the south-east.
Birds	WCAs1 Barn owl (<i>Tyto alba</i>), kingfisher (<i>Alcedo atthis</i>) and little ringed plover (<i>Charadrius dubius</i>). PS Bullfinch (<i>Pyrrhula pyrrhula</i>), curlew (<i>Numenius arquata</i>), house sparrow (<i>Passer domesticus</i>), lapwing (<i>Vanellus vanellus</i>), linnet (<i>Carduelis cannabina</i>), reed bunting (<i>Emberiza schoeniclus</i>) and starling (<i>Sturnus vulgaris</i>).
Terrestrial mammals	Badger (<i>Meles meles</i>). PBA92: records for badger are held for the wider area. Brown hare (<i>Lepus europaeus</i>). PS and GMBAP: 4 records, the closest of which is located 400 metres to the north of the site. Common pipistrelle (<i>Pipistrellus pipistrellus</i>). EPS, WCAs5 and GMBAP: 1 record of a roost located 1 kilometre to the south and 22 records of activity, the closest of which is 100 metres to the north-west. Daubenton's bat (<i>Myotis daubentonii</i>). EPS, WCAs5 and GMBAP: 5 records of activity, the closest of which is 500 metres to the north-east. Hedgehog (<i>Erinaceus europaeus</i>). PS: 2 records, the closest of which is located 600 metres to the south of the site.

² A spatial dataset that describes the geographic extent and location of Natural Environment and Rural Communities Act (2006) Section 41 habitats of principal importance.

Taxon Group	Species Name and Designations ¹ and Notes
	Noctule (<i>Nyctalus noctula</i>). EPS, WCAs5, PS and GMBAP: 2 records of activity located 1 kilometre to the north-east.
	Pipistrelle species (<i>Pipistrellus</i> species): EPS, WCAs5 and GMBAP: 3 records of roosts and 2 records of activity,; the closest record is a roost located 1.2 kilometres to the south of the site.
	Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>): EPS, PS, WCAs5 and GMBAP: 2 records of activity, the closest of which is located 600 metres to the north of the site.
	Unknown bat species (Order <i>Chiroptera</i>). EPS, WCAs5 and GMBAP: 1 record of activity located 1.8 kilometres to the north-east.
¹Key to Designation Codes: EPS = European Protected Species under the <i>Conservation of Habitats and Species Regulations 2017</i> . WCAs1 = Species receives full protection under Schedule 1 of the <i>Wildlife and Countryside Act 1981</i> (as amended). WCAs5 = Species receives full protection under Schedule 5 of the <i>Wildlife and Countryside Act 1981</i> (as amended). PBA92 = Protection of Badger Act 1992 PS = Priority Species listed under Section 41 of the NERC Act 2006 GMBAP = Species listed on the Greater Manchester Biodiversity Action Plans	

- 3.1.10 The presence of these protected and notable species within the wider area has been taken into account throughout this report.

3.2 Vegetation and Habitats

General Description

- 3.2.1 The approximately 0.31 hectare site, which is set in a rural location within the wider former care home complex, comprises a unit of unmanaged grassland with edges of scrub and tall herb vegetation, an ornamental hedgerow and boundary trees. A dilapidated gate house building (Building 1) is present at the south-eastern end of the site.
- 3.2.2 The northern boundary is defined by an ornamental hedgerow and boundary trees are present at the eastern, southern and western site boundaries. Buildings associated with the former care home are present beyond the northern and eastern boundaries and fields of semi-improved grassland are present to the south and west of the site.
- 3.2.3 A Phase 1 Habitat Survey map is appended at **Figure 2**, and can be referred to for all habitat descriptions. Photographs are appended at **Table 8.1**.

Vegetation and Habitats

- 3.2.4 Refer to **Photos 1 to 4**. The site supports unmanaged grassland with edges Bramble (*Rubus fruticosus* agg.) scrub and tall herb vegetation.
- 3.2.5 The vegetation is characterised by constant and frequent Sweet Vernal-grass (*Anthoxanthum odoratum*), frequent Meadow Foxtail (*Alopecurus pratensis*), Meadow Buttercup (*Ranunculus acris*), Common Sorrel (*Rumex acetosa*), frequent and locally abundant Cock's-foot (*Dactylis glomerata*), Cleavers (*Galium aparine*) and Common Nettle (*Urtica dioica*), occasional and locally abundant Bramble and locally abundant Ground-elder (*Aegopodium podagraria*). Bluebell (*Hyacinthoides non-scripta*) is locally abundant. Investigation of Google Earth historical imagery indicates that the grassland was previously managed amenity grassland associated with the care home complex.
- 3.2.6 The unmanaged grassland and scrub are largely uncharacteristic of any NVC community, however, in places, the habitat shares affinities with an OV24 *Urtica dioica* – *Galium aparine* community (Rodwell, 2000) and the W24 *Rubus fruticosus* – *Holcus lanatus* underscrub community (Rodwell, 1991). The unmanaged grassland vegetation is described by the UKHab as g3c other neutral grassland with the secondary codes 16 tall herb and 77 neglected (unmanaged for 3 to 10 years).

- 3.2.7 The ornamental hedgerow at the northern boundary is non-native and comprises of Portugal Laurel (*Prunus lusitanica*). The hedgerow is managed by mechanical flail to a height of 1 to 1.5 metres and a width of 1 metre. The ornamental hedgerow is not representative of any community of the NVC and is described by the UKHab as h2b other hedgerows with the secondary code 48 non-native.
- 3.2.8 Refer to **Photos 5** and **6**. Trees at the site boundaries include mature Sycamore (*Acer pseudoplatanus*), Ash (*Fraxinus excelsior*), Beech (*Fagus sylvatica*), Wych Elm (*Ulmus glabra*) and Lime (*Tilia* sp.) and are described by the UKHab as w1g6 line of trees (no secondary codes were noted).
- 3.2.9 A plant species list for the site is appended at **Table 8.2**.

Invasive Plant Species

- 3.2.10 No Japanese Knotweed is present at the site.
- 3.2.11 As illustrated on **Figure 2**, stands of Rhododendron (*Rhododendron ponticum*), a plant species listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), are present at the eastern site boundary. It is an offence to spread or cause the spread of this species in the wild. This is considered further at **Section 4.3** below.

3.3 Animal Life

Badger

- 3.3.1 No evidence of badger was detected within the site or surrounding 50 metres. One record of a badger sett is present 100 metres to the east of the site, associated with the wooded copse to the east of the wider former care home complex.
- 3.3.2 Further consideration for badger is presented at **Section 4.4**.

Bat Species

Daylight Survey: Buildings

- 3.3.3 Refer to **Photos 7** to **10**. The building is a disused detached single-story former gatehouse constructed from walls of mortared brick and supporting a hipped roof of slate with clay ridge tiles.
- 3.3.4 Gaps suitable for access by bats are present at the open doorways, the door frames, under clay ridge tiles and at lifted lead flashing on the roof.
- 3.3.5 Internally the building supports a single roof void which is 1.3 metres at its apex and uninsulated. The roofing slates are unlined and are supported on timber rafters.
- 3.3.6 No bats or signs of bats were detected at the internal or external elevations of the building. Features suitable for use by crevice dwelling species, such as common pipistrelle (*Pipistrellus pipistrellus*) are present; it is not considered that the building provides typical roosting habitat for species known to roost in the open in voids, such as brown long-eared bats (*Plecotus auritus*).
- 3.3.7 Taking into account the suitability of the habitats within and surrounding the site for foraging and commuting bats, it is considered the building is of 'moderate' suitability for use by roosting bats. This is considered further at **Section 4.4** below.

Trees

- 3.3.8 Three trees at the site support features suitable for use by roosting bats, and are summarised in the table below.

Table 3.2: Trees that Support Features Suitable for Use by Roosting Bats

Tree Reference, Species (Photo reference)	Feature	Suitability
Tree 1, Ash (Photo 11)	Vertical wound at 2.5 metres on north-facing side of main stem leading to deeper cavity	Moderate
Tree 2, Sycamore (Photo 12)	Upward facing knot hole approx. 5 metres above ground level	Low
Tree 3, Ash (Photo 13)	Upward facing hole from fallen branch 4 metres above ground level	Low

3.3.9 The presence of Trees 1 to 3 is considered further in **Section 4.4**.

Habitat Assessment for Commuting and Foraging Bats

3.3.10 The trees, hedgerow and scrub are suitable for use by foraging bats, and the trees and hedgerow provide habitat connectivity across the site.

3.3.11 A diverse range of species and / or a large number of bats are considered unlikely at the site owing to the absence of habitats such as woodland or tree-lined watercourses within the site and the small size of the site.

3.3.12 The habitats within the site may be suitable for and contribute to the wider foraging area of common species of edge-feeding species, such as common pipistrelle (*Pipistrellus pipistrellus*), and also species known to forage over open habitats and over wide areas, such as noctule (*Nyctalus noctula*).

3.3.13 Overall the site is assessed to be of 'moderate' suitability for use by foraging and commuting bats.

Bird Species

3.3.14 Birds detected in the site in May 2021 comprise blackbird (*Turdus merula*), robin (*Erithacus rubecula*), and carrion crow (*Corvus corone*).

3.3.15 One bird box (refer to **Figure 2**) is present on a Sycamore tree at the eastern site boundary.

3.3.16 The boundary trees are suitable for use by nesting passerine (i.e. perching) species, including those detected within the site during the survey. The trees and scrub provide opportunities for foraging birds. Birds are considered further at **Section 4.4**, below.

Barn Owl

3.3.17 No sign of nesting barn owl was detected during the internal inspection of the building.

3.3.18 The presence of barn owl at the site is reasonably discounted.

Great Crested Newt and other Amphibians

3.3.19 Pond 1 is 90 metres to the west of the site and connected terrestrially to the site across an agricultural field. In accordance with historical aerial imagery, the pond is man-made and was created recently, between 2013 and 2017. For completeness, a Habitat Suitability Index (HSI) assessment of the pond was conducted and the results are given at **Table 3.3**, below. A photograph of Pond 1 is appended at **Photo 14**.

Table 3.3: Habitat Suitability Index Assessment for Pond 1

Criteria	Description	Pond 1	Score ¹
Sl ₁	Location	Optimal	1
Sl ₂	Pond Area	1500m ²	0.87
Sl ₃	Permanence	Never dries	0.9
Sl ₄	Water Quality	Moderate	0.67
Sl ₅	Shade	0%	1

Sl ₆	Waterfowl	Minor impact	0.67
Sl ₇	Fish	Possible	0.67
Sl ₈	Pond count ²	15	1
Sl ₉	Terrestrial habitat	Moderate	0.67
Sl ₁₀	Macrophyte cover	2%	0.3
Assessment Result:		Good	0.74
¹ Calculated by $(Sl_1 \times Sl_2 \times Sl_3 \times Sl_4 \times Sl_5 \times Sl_6 \times Sl_7 \times Sl_8 \times Sl_9 \times Sl_{10})^{1/10}$			
² Ponds within an unobstructed 1 kilometre radius			

3.3.20 Owing to the results of the results of the Rapid Risk Assessment (presented at **Section 2.3**), the development is highly unlikely to have an adverse effect on great crested newts, if present, at Pond 1. Further, the pond is newly created (circa 2013 to 2017) and is therefore unlikely to have been colonised by great crested newts from the wider area as no records of great crested newt were found via the records search. Adverse impacts on great crested newt can be reasonably discounted.

3.3.21 Pond 1 supports suitable habitat for breeding common toad, a Priority Species, and is within close proximity to the site. The site supports suitable habitat for sheltering common toad. Common toad and other amphibians are considered further at **Section 4.4**.

Reptiles

3.3.22 The site supports no favourable habitat for basking reptiles. The species-poor habitats within the site are reasonably unlikely to support a large populations or a variety of invertebrate prey.

3.3.23 The site is not adjacent or linked to any areas of favourable habitat for reptile species, and there are no records of reptile for the site or the wider area. The presence of reptiles within the site is reasonably discounted.

Other Wildlife

3.3.24 The site supports suitable habitats for foraging and sheltering hedgehog, a Priority Species, although no field signs of hedgehog were detected. The potential presence of hedgehog within the site is considered further at **Section 4.4**.

4.0 EVALUATION AND ASSESSMENT

4.1 Introduction and Description of Proposals

4.1.1 In accordance with the proposed site plan, it is proposed to construct two residential properties with associated access and curtilage and to refurbish the existing gate house building.

4.1.2 **Section 4.2** provides an assessment of any impacts of the proposed development on the designated sites for nature conservation present in the wider area. The ecological value of habitats within the site are evaluated at **Section 4.3**, and protected and notable species are considered at **Section 4.4**.

4.2 Designated Sites for Nature Conservation

4.2.1 It is considered that the site is sufficiently small and distant from all designated sites for nature conservation that the proposed development will have no impact upon them.

4.3 Vegetation and Habitats

4.3.1 The site contains only common and widespread plant species. None of the habitats within the site are of significant interest in terms of their plant species composition. None of the habitats present are representative of semi-natural habitat. The NVC communities present are typical of the geographical area and conditions present. No Priority Habitats are present at the site.

- 4.3.2 In terms of each habitat's importance in a geographical context³, the unmanaged grassland with edges of Bramble scrub and tall herb vegetation are of 'site' value. The boundary trees are also of 'site' value, and will provide opportunities for nesting birds and foraging bats and birds, as well as habitat connectivity across the site. Recommendations to retain and protect the boundary trees are presented at **Section 5.2**.
- 4.3.3 The ornamental hedgerow is not a Priority Habitat and is not important in accordance with *The Hedgerows Regulations 1997* Wildlife and Landscape criteria as it is not composed of any qualifying native woody species. It is considered that the hedgerow provides only limited opportunities for wildlife and does not contribute to the biodiversity value of the site; the removal of the hedgerow will not negatively impact upon the biodiversity value of the site. It is recommended that the proposals present an opportunity to replace the hedgerow with a native species-rich hedgerow to enhance the biodiversity of the site and opportunities for nesting and foraging birds, sheltering and foraging hedgehog and common toad and commuting and foraging bats. Recommendations for landscape planting and native hedgerow planting as part of the proposed development are presented at **Section 5.7**.
- 4.3.4 Rhododendron, an invasive plant species listed under Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), is present at the site. Recommendations for the eradication of this species prior to the commencement of development activities are presented at **Section 5.3**.

4.4 Protected Species and Other Wildlife

Bats

Building

- 4.4.1 No bats or signs of bats were detected at the gate house (Building 1), however the building is considered to be of 'moderate' suitability for use by roosting bats, and is set within a wider landscape of habitat suitable for use by foraging and commuting bats.
- 4.4.2 No sign of a roost of high conservation significance (such as a maternity roost) was detected at the building. The building does not support any features suitable for use by hibernating bats.
- 4.4.3 Up to two dawn re-entry / dusk emergence surveys are required at the building to determine the presence or absence of roosting bats.
- 4.4.4 The further surveys required at Building 1 are outlined at **Table 5.1**.
- 4.4.5 Habitats within and adjacent to the site are suitable for foraging and commuting bats. Recommendations relating to the retention of features suitable for use by foraging and commuting bats, and features to enhance habitats for roosting bats at the site, are presented at **Section 5.5**.

Trees

- 4.4.6 Trees 1, 2 and 3 support suitable features for use by roosting bats. In accordance with the proposals plan, as many of the boundary trees at the site will be retained as possible, including Tree 2. Trees 1 and 3 are to be felled in accordance with the recommendations in *Ainsworth Care Home, Bury, Drawing Title: BS5837 Plan, Drawing No: ACHB/BS/01* (Mulberry TMC, 2021), hereafter the 'tree report'. Further surveys and precautions with respect to roosting bats at Trees 1 and 3 will be necessary at Trees 1 and 3 and are presented at **Section 5.5**.

³ In relation to its geographic context, using the terms presented at Section 4.7 of *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018), i.e. International and European, National, Regional, Local Authority-wide area, River Basin District, Estuarine system/Coastal cell or Local. The term 'site' value is additionally used to highlight ecological features considered to be of importance in the context of the wider site habitats, but which are of negligible value in the context of the local area.

Birds

- 4.4.7 The trees and building provide favourable foraging and nesting habitat for the species of birds detected within the site and the wider area via the records search (including house sparrow, a Priority Species). Consideration of birds (including protection of breeding birds and recommended enhancements for Priority Species) are presented at **Section 5.6** of this report.

Common Toad, Hedgehog and Badger

- 4.4.8 The site supports suitable terrestrial habitats for sheltering and foraging common toad and hedgehog, both of which are Priority Species. The site is considered to be too small to constitute core or important habitat for either species, however it is recognised that the proposals have the potential to kill and injure both common toad and hedgehog during site clearance and the construction phase of the proposed development.
- 4.4.9 No evidence of badger or badger setts were found within the site or within 50 metres of the site, however one record of a badger sett is present within 100 metres of the site to the east of the wider former care home complex.
- 4.4.10 Measures to ensure the protection of common toad, hedgehog and badger (and other wildlife) during site clearance and construction are presented at **Section 5.4**.

5.0 RECOMMENDATIONS AND ECOLOGICAL ENHANCEMENT

5.1 Introduction

- 5.1.1 These recommendations aim to ensure that the development is implemented in accordance with relevant wildlife legislation, Natural England guidance, the principles of the National Planning Policy Framework (NPPF), local planning policy and best practice.
- 5.1.2 In accordance with Chapter 15, paragraph 175 point 'd' of the NPPF, when determining planning applications, local planning authorities should encourage opportunities to incorporate biodiversity improvements in and around developments, especially where this can secure measurable net gains for biodiversity.
- 5.1.3 Where possible, opportunities to enhance the ecological interest and habitat connectivity and seek biodiversity gain through appropriate landscape planting and habitat creation have been identified.
- 5.1.4 All recommendations are appropriate to the geographical area, the habitats in the wider area, the wildlife present in the local area (and likely to use the site post-construction) and take into consideration the end use of the site.

5.2 Protection of Existing Vegetation

Protection of Trees, Shrubs and Hedgerows

- 5.2.1 During the construction phase, temporary protective demarcation fencing will be used to protect the boundary trees and any length of ornamental hedgerow to be retained. The fencing must extend outside the canopy of the retained trees and must remain in position until all areas have been developed to ensure protection is provided throughout the construction phase.
- 5.2.2 The fencing will be in accordance with BS5837:2012 *Trees in Relation to Design, Demolition and Construction: Recommendations* (BSI, 2012).

5.3 Invasive Plant Species

- 5.3.1 It is an offence under the *Wildlife and Countryside Act 1981* (as amended) to cause the spread of *Rhododendron* in the wild. It is concluded that the preparation of an Invasive Species Management Plan is not necessary in this case and this species can be grubbed out by the roots during site clearance and disposed of either by burying on site or removal to a suitable tip.

5.4 Protection of Wildlife During the Construction Phase

- 5.4.1 It is recommended that the following Reasonable Avoidance Measures (RAMs) for the protection of wildlife (including amphibians, badger and hedgehog) are adopted during the construction phase of the proposed development.
- All site personnel must be made aware of this RAMs;
 - Prior to any soil strip, vegetation must will be strimmed to a height of no less than 0.15 metres and all arising removed;
 - No trenches must be left open overnight. Trenches or holes must be covered with a board or fitted with a means of escape (such as ramped edge or sloping plank of timber). This will ensure that any inquisitive badger do not become trapped;
 - Any pipes must be stored with caps on (to prevent badger entry);
 - No fires must be lit at the site;
 - The use of chemicals, such as fertilisers and herbicides harmful to amphibians and other wildlife should be avoided wherever possible and any chemicals or harmful materials must be stored so that they cannot be accessed by inquisitive badger; and
 - If small wildlife (such as common toad or hedgehog) is detected, it must be carefully picked up, placed into a clean bucket and moved to an area of suitable habitat beyond the development area. If any badger activity is detected then works must cease and ERAP (Consultant Ecologists) Ltd must be contacted for further assistance.

5.5 Bats

Building

Further Surveys

- 5.5.1 The further surveys required at the gate house building are outlined at **Table 5.1**, below

Table 5.1: Further Surveys Required for Bats at Building 1

Survey type	Survey Timings and Frequency ¹
Dusk emergence survey / dawn re-entry survey	Two surveys required to reliably determine presence or absence. Three surveys may be required if roosting bats are detected and it is not considered that all roosting locations and/or the type of roost presence has been determined by the first survey. The surveys must be completed in the bat active season, i.e. between May and September, with at least one of the surveys between May and August. Dusk emergence surveys must commence at least 15 minutes before sunset and last until between 1.5 and 2 hours after sunset. Dawn re-entry surveys must commence between 1.5 and 2 hours before sunrise and last until 5 minutes after sunrise. Surveys must be spaced at least 2 weeks apart.
¹ in accordance with Table 7.1 of <i>Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)</i> (Collins, J. (ed), 2016)	

Trees

- 5.5.2 The method statement below assumes that Trees 1 and 3 are to be removed in accordance with the guidance provided by the tree report
- 5.5.3 To comply with the guidelines in relation to determining the presence / absence of roosting bats, it is recommended that an inspection of the potential roost features at Trees 1 and 3 is carried out.

Method Statement / Reasonable Avoidance Measures to be Applied During Tree Felling

- 5.5.4 All works to trees must take into account the mandatory actions in relation to nesting birds (i.e. works must not be completed during the bird breeding season (i.e. March to August inclusive) unless a tree has been first inspected by a suitably experienced ecologist.
- 5.5.5 The following measures will be applied at Trees 1 and 3 with low and moderate suitability, provided no evidence of a roost has been detected by the inspection of the roost features described above.
- Prior to felling / arboricultural works, an updated inspection of the potential roost feature at the relevant trees will be carried out by a licensed surveyor;
 - Provided no current or previous evidence of use by roosting bats is found, then trees must be section / soft-felled under the supervision of a licensed bat surveyor. The licensed bat surveyor will be present to supervise the subsequent works;
 - The sectioning must avoid cutting through or close to any identified features, and may involve climbing the tree;
 - Cut sections will be lowered to the ground with the use of ropes;
 - Once on the ground, the cavity / potential roost feature will be re-inspected by the licensed bat surveyor and guidance issued;
 - Where relevant, all felled sections will be left to lie on the ground for 24 hours before snedding (removing side branches); and
 - Where relevant, the opportunity to strap the potential roost features (i.e. a section of trunk with an exposed cavity) to an alternate and suitable nearby tree should be explored.
- 5.5.6 Essential arboricultural works at all other trees can be carried out in accordance with good arboricultural practice.

Timing

- 5.5.7 The optimum time for tree removal / arboricultural works is between September and late February inclusive.

Discovery of a Bat

- 5.5.8 If at any time during the works a bat is discovered, all contractors must withdraw from the area and ERAP (Consultant Ecologists) Ltd (01772 750502) or Natural England must be contacted for further guidance.

Lighting

- 5.5.9 Paragraph 180, bullet point 'c' in Chapter 15 (conserving and enhancing the natural environment) of the NPPF states that development should:

'limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.'

Construction Phase

- 5.5.10 Any lighting to be used at the site during construction should be directional and screened where possible, this specification should be included within a Construction Environment Management Plan (CEMP), or similar.

Development Lighting Design

- 5.5.11 The lighting scheme to be implemented at the developed site must involve the use of appropriate products and screening, where necessary, to ensure no excessive artificial lighting shines over the boundary trees, retained hedgerow and any landscape planting, as lighting overspill may deter use by wildlife such as foraging bats.
- 5.5.12 The lighting scheme will be designed with reference to current guidance, namely:
- Guidance Note 8: Bats and Artificial Lighting in the UK* (Institution of Lighting Professionals & Bat Conservation Trust, 2018); and
 - Bats and lighting: Overview of current evidence and mitigation guidance* (Stone, 2014).

Enhancing Habitats for Roosting Bats

- 5.5.13 It is recommended that the development incorporates the installation of two bat access panels at the new buildings.
- 5.5.14 The bat access panels should be sited at least 4 metres above ground level, ideally facing or close to areas of landscape planting or existing linear features. The access panels should not be positioned over windows or doorways where bat droppings may become a nuisance. Once the development layout has been finalised, an ecologist should advise on appropriate positions for the bat access panels. Suitable bat access panels are available from NHBS Ecology (www.nhbs.com) or Wild Care (www.wildcare.co.uk) and are presented at **Insert 1**, below:



Insert 1: Examples of integrated bat access panels and an externally mounted box⁴

- 5.5.15 It is recommended that two bat boxes are erected onto suitable retained mature trees within the site. An ecologist will advise on the siting of the bat boxes whilst on site.
- 5.5.16 Suitable bat boxes are the Schwegler 1FF, Greenwood Ecohabitat's single or double cavity boxes and Schwegler 1FD, see **Insert 2**, below.

⁴ Left to right: IBstock Enclosed Bat Box 'c' (left); Habibat Bat Access Panels (centre left and centre right) and Greenwood's Ecohabitat's two crevice bat box (right). Products with a brick face are illustrated, however the Habibat bat access panels can be supplied unfaced to enable the additional of matching material.



Insert 2: Schwegler 1FF, Greenwood Ecohabitat's single cavity and Schwegler 1FD bat boxes

5.5.17 Bat boxes should be installed to the following guidelines (Bat Conservation Trust, 2016):

- a. At least 4 metres above the ground (where safe installation is possible);
- b. Sheltered from strong winds and exposed to the sun for part of the day (usually south or south-west);
- c. Located close to unlit linear features, such as lines of trees or hedgerows; and
- d. Installed where the bat box entrance is not cluttered or impeded by branches, or accessible to predators (such as cats) by large branches underneath them.

5.6 Birds

Protection

- 5.6.1 All wild birds are protected under the *Wildlife and Countryside Act 1981* (as amended) while they are breeding. It is advised that any works such as vegetation clearance that will affect habitats suitable for use by nesting birds are scheduled to commence outside the bird nesting season. Commencement of works in the nesting season must be informed by a pre-works nesting bird survey, carried out by a suitably experienced ecologist. The bird breeding season typically extends between March to August inclusive (Natural England, 2015).
- 5.6.2 If breeding birds are detected the ecologist will issue guidance in relation to the protection of the nesting birds in conjunction with the scheduled works. This may involve cordoning off an area of the site until the young birds have fledged.
- 5.6.3 The existing bird box (refer to **Figure 2**) should remain in situ and not be disturbed during the nesting season (March to August inclusive). If removal, repair or replacement of the bird box is required, this should be done outside of the nesting season.

Enhancing Habitats for Nesting Birds

House Sparrow

- 5.6.4 House sparrows are associated with suburban areas. Monitoring suggests a severe decline in the UK house sparrow population, estimated as halving in rural areas, and dropping by 60% in towns and cities since the mid-1970's (RSPB, 2018).
- 5.6.5 The installation of two house sparrow terrace nest boxes is recommended at the proposed new housing. The boxes will not be positioned over windows or doorways where droppings may become a nuisance. RSPB advice states that boxes should ideally be sited facing north to east, to avoid exposure to direct sunlight, which may cause overheating of chicks in the nest. An example of a suitable house sparrow bird box is given below at **Insert 3**:



Insert 3: Schwegler 1SP House Sparrow Nesting Terrace

- 5.6.6 Such bird boxes are available from the NHBS (www.nhbs.com) or Wild Care (www.wildcare.co.uk). ERAP (Consultant Ecologists) Ltd will advise on the siting of bird boxes.

Woodland Birds

- 5.6.7 One bird box associated with woodland bird species is to be installed at a retained mature tree within the site. An ecologist will advise on the siting of the woodland bird box whilst on site. RSPB advice states that boxes should ideally be sited facing north to east, to avoid exposure to direct sunlight, which may cause overheating of chicks in the nest. The box should be at least 4 metres from ground level.
- 5.6.8 One of the boxes presented at **Insert 4**, below, will be used.



Insert 4: Schwegler 3SV, Schwegler 1N, Schwegler 2M and Schwegler 2H bird boxes, suitable for a variety of woodland birds.

5.7 Enhancement and Management of Retained Habitats and Landscape Planting

Enhancement and Management of the Retained Habitats

- 5.7.1 It is recommended that the landscape buffer between the proposed plots and the western boundary is managed for biodiversity and to promote the longevity of the habitat. The following is recommended:
- Creation of dead wood habitat piles for colonisation by invertebrates, fungi and small mammals including hedgehog (Priority Species); and
 - Plug planting of woodland herbs such as native Bluebell (*Hyacinthoides non-scripta*).

Maintenance of Habitat Connectivity

- 5.7.2 To ensure habitat connectivity is maintained as part of the development proposals, gaps within the proposed fencing (see **Insert 5**, below, as reproduced from *Hedgehogs and Development* (British Hedgehog Preservation Society / PTES, 2019)) to allow access by other wildlife (including hedgehog) across the site

should be accommodated. It is recommended that wildlife gaps (at least 0.1 metre tall and 0.15 metre wide) are installed at the base of the proposed fencing.



Insert 5: Showing wildlife access gap within fencing

Landscape Planting

- 5.7.3 It is recommended that the landscape planting, including the proposed hedgerow within the site is composed from native species and species known to be of value for the attraction of wildlife.
- 5.7.4 To enhance the biodiversity value of the site, it is recommended that the ornamental hedgerow is replaced with a species-rich native hedgerow of the same length. Suitable species for the proposed hedgerows and for other landscape planting at the site are presented at **Table 5.2**.

Table 5.2: Suitable Native Species for Tree and Shrub Planting

Scientific Name	Common Name	Scientific Name	Common Name
<i>Acer campestre</i>	Field Maple	<i>Prunus spinosa</i>	Blackthorn
<i>Corylus avellana</i>	Hazel	<i>Rosa arvensis</i>	Field Rose
<i>Crataegus monogyna</i>	Hawthorn	<i>Rosa canina</i>	Dog-rose
<i>Ilex aquifolium</i>	Holly	<i>Sambucus nigra</i>	Elder
<i>Malus sylvestris</i>	Crab Apple	<i>Sorbus aucuparia</i>	Rowan
<i>Prunus avium</i>	Wild Cherry	<i>Ulmus glabra</i>	Wych Elm
<i>Prunus padus</i>	Bird Cherry	<i>Viburnum opulus</i>	Gelder Rose

- 5.7.5 The understorey and ground cover planting design should be prepared to optimise the attraction of invertebrates such as feeding bumblebees and butterflies. Where possible the use of native species should be maximised but where necessary non-native species known to be attractive to invertebrates should be used.
- 5.7.6 Planting schemes that include flowering species such as *Viburnum*, *Ceanothus*, *Hebe*, *Lavandula*, *Lonicera*, *Potentilla*, *Rosmarinus* and *Vinca* can maximise opportunities for feeding invertebrates and for the attraction of foraging bats and birds.
- 5.7.7 For further plants suitable for the attraction of pollinators please refer to the *Perfect for Pollinators Plant List* (Royal Horticultural Society, 2012). It is recommended that the selection of plant species at the site ensures that a variety of flowering species are available throughout the year.

6.0 CONCLUSION

- 6.1 Further surveys are required to determine the presence / absence of roosting bats at Building 1 and Trees 1 and 3, otherwise this ecological assessment has demonstrated that a development at the site is feasible and acceptable in accordance with ecological considerations and the National Planning Policy Framework.
- 6.2 It is possible to implement reasonable actions for the protection and long-term conservation of fauna such as nesting birds, commuting/foraging bats and other wildlife associated with the site.

-
- 6.3 Development at the site will provide an opportunity to secure ecological enhancement for fauna typically associated with residential areas such as breeding birds and roosting bats.

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8.0 APPENDIX: TABLES AND FIGURES

Table 8.1: Table of Photographs



Photo 1: Unmanaged grassland



Photo 2: Unmanaged grassland and edges of tall herb



Photo 3: Bramble scrub



Photo 4: Unmanaged grassland and edges of tall herb



Photo 5: Trees at eastern site boundary



Photo 6: Site and boundary trees



Photo 7: Southern and eastern elevation of Building 1



Photo 8: Northern and western elevation of Building 1



Photo 9: Interior of Building 1



Photo 10: Roof space of Building 1



Photo 11: Tree 1 (Ash) with vertical wound on main stem



Photo 12: Tree 2 (Sycamore) with upward facing knot hole on main stem



Photo 13: Tree 3 (Ash) with upward facing tear from broken-off branch



Photo 14: Pond 1

Table 8.2: Plant Species List for the Site

Scientific Name	Common Name	DAFOR ¹	Cover
Woody species			
<i>Acer pseudoplatanus</i>	Sycamore	O/LF	2%
<i>Aesculus hippocastanum</i>	Horse-chestnut	R	<1%
<i>Aucuba japonica</i>	Spotted-laurel	R	<1%
<i>Crataegus monogyna</i>	Hawthorn	O/LF	1%
<i>Fagus sylvatica</i>	Beech	O	1%
<i>Fraxinus excelsior</i>	Ash	O	2%
<i>Ilex aquifolium</i>	Holly	LF	<1%
<i>Prunus lusitanica</i>	Portugal Laurel	LA	1%
<i>Rhododendron ponticum</i>	Rhododendron	O/LF	2%
<i>Sambucus nigra</i>	Elder	O	<1%
<i>Tilia</i> sp.	Lime species	LF	1%
<i>Ulmus glabra</i>	Wych Elm	LF	<1%
Herb Species			
<i>Aegopodium podagraria</i>	Ground-elder	LA	5%
<i>Alopecurus pratensis</i>	Meadow Foxtail	F	20%
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	F	20%
<i>Aquilegia vulgaris</i>	Columbine	R	<1%
<i>Brassica napus</i>	Rape	R	<1%
<i>Cardamine pratensis</i>	Cuckooflower	R	<1%
<i>Chamerion angustifolium</i>	Rosebay Willowherb	LA	1%
<i>Cirsium vulgare</i>	Spear Thistle	O	<1%
<i>Dactylis glomerata</i>	Cock's-foot	F/LA	2%
<i>Digitalis purpurea</i>	Foxglove	R	<1%
<i>Epilobium hirsutum</i>	Great Willowherb	LA	<1%
<i>Epilobium montanum</i>	Broad-leaved Willowherb	LA	<1%
<i>Festuca rubra</i>	Red Fescue	LF	1%
<i>Galium aparine</i>	Cleavers	F/LA	5%
<i>Geranium robertianum</i>	Herb-Robert	LA	<1%
<i>Hedera helix</i>	Ivy	VLA	<1%
<i>Hyacinthoides hispanica</i>	Spanish Bluebell	O	<1%
<i>Hyacinthoides non-scripta</i>	Bluebell	LA	5%
<i>Myosotis arvensis</i>	Field Forget-me-not	VLA	<1%
<i>Phalaris arundinacea</i>	Reed Canary-grass	LF	<1%
<i>Plantago lanceolata</i>	Ribwort Plantain	F/LA	1%
<i>Potentilla sterilis</i>	Barren Strawberry	LA	<1%
<i>Primula vulgaris</i>	Primrose	VLA	<1%
<i>Ranunculus acris</i>	Meadow Buttercup	F	1%
<i>Ranunculus repens</i>	Creeping Buttercup	O/VLA	1%
<i>Rubus fruticosus</i> agg.	Bramble	O/LA	5%
<i>Rumex acetosa</i>	Common Sorrel	F	2%
<i>Rumex obtusifolius</i>	Broad-leaved Dock	O/LA	1%
<i>Senecio jacobaea</i>	Common Ragwort	R	<1%
<i>Silene dioica</i>	Red Campion	R	<1%
<i>Sonchus asper</i>	Prickly Sow-thistle	R	<1%
<i>Taraxacum officinale</i> agg.	Dandelion	O/LF	<1%
<i>Trifolium pratense</i>	Red Clover	LA	<1%
<i>Urtica dioica</i>	Common Nettle	F/LA	10%
<i>Veronica hederifolia</i>	Ivy-leaved Speedwell	VLA	<1%

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

Figure 1: Aerial Image of the Site, Surrounding Habitats, Ponds within 500 metres and Nearby SBIs

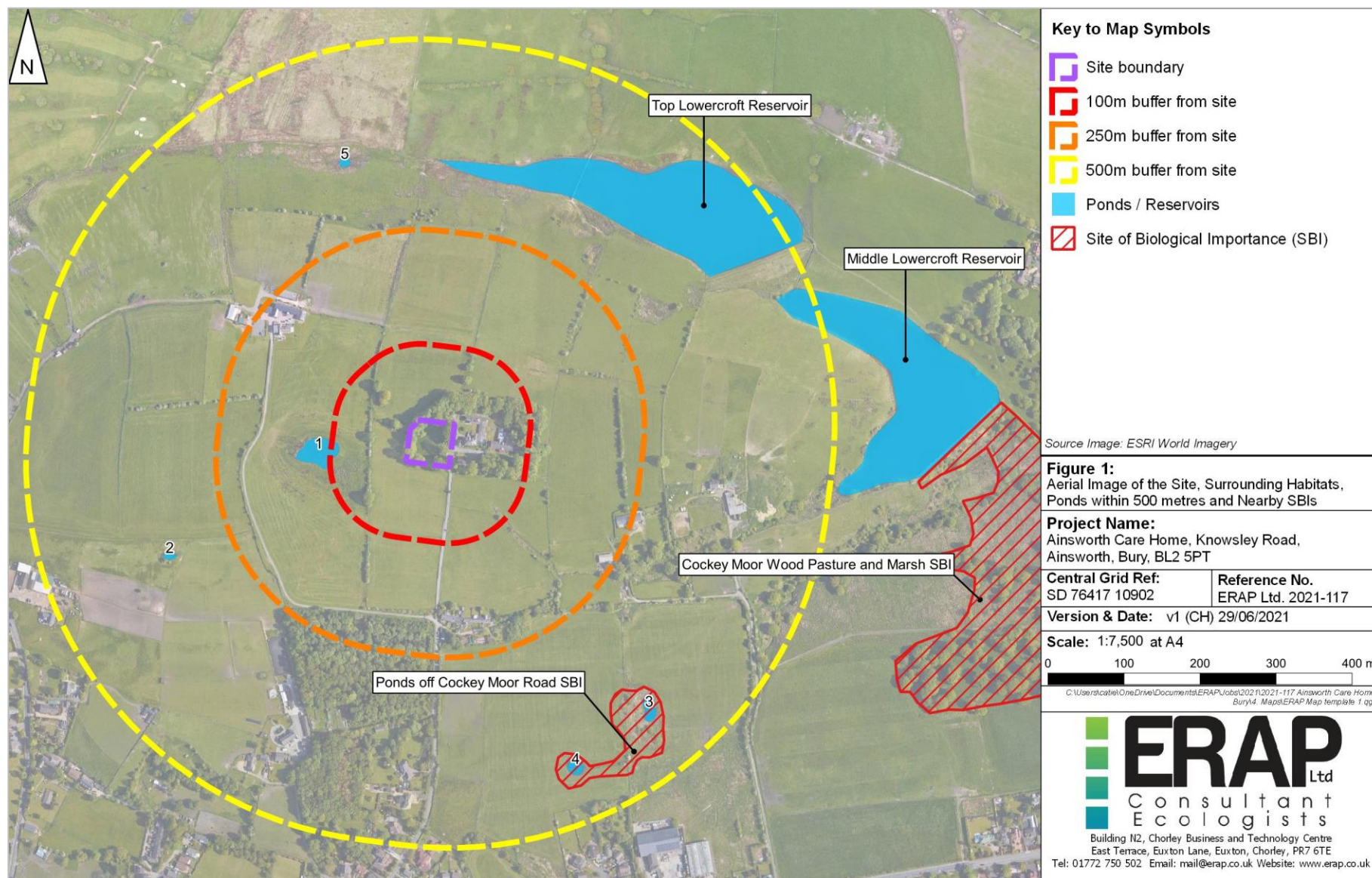


Figure 2: Phase 1 Habitat and Vegetation Map

