Land east of Warwick Road, Banbury

Ecological Appraisal

Prepared by:
The Environmental Dimension Partnership Ltd

On behalf of:
Vistry Homes Ltd

October 2022
Report Reference
edp3253_r006c

Contents

Executive Summary

Section 1 Introduction, Purpose and Context 1

Section 2 Methodology (Baseline Investigations) 3

Section 3 Results (Baseline Conditions) 9

Section 4 Details of Proposed Development 17

Section 5 Predicted Impacts and Mitigation 21

Section 6 Summary and Conclusions 31

Appendices

Appendix EDP 1 Habitat Descriptions and Site Photographs

Appendix EDP 2 Hedgerow Survey

Appendix EDP 3 Breeding Bird Survey

Appendix EDP 4 Bat Survey

Appendix EDP 5 Badger Survey

Appendix EDP 6 Biodiversity Impact Assessment

Plans

Plan EDP 1 Extended Phase 1 Habitat Survey
(edp3253_d009a 21 July 2022 MH/ND)

Plan EDP 2 April Breeding Bird Survey Results
(edp3253_d014a 21 July 2022 GY/CL)

Plan EDP 3 May Breeding Bird Survey Results
(edp3253_d015a 21 July 2022 GY/CL)

Plan EDP 4 June Breeding Bird Survey Results
(edp3253_d016a 21 July 2022 GY/CL)

Plan EDP 5	Bat Tree Roost Assessment (edp3253_d012a 21 July 2022 GY/ND)
Plan EDP 6	Bat Activity Transect Routes (edp3253_d011a 21 July 2022 GY/ND)
Plan EDP 7	Bat Activity Transect Survey May (edp3253_d019a 21 July 2022 GY/ND)
Plan EDP 8	Bat Activity Transect Survey July Dusk (edp3253_d020a 21 July 2022 GY/ND)
Plan EDP 9	Bat Activity Transect Survey July Dawn (edp3253_d022a 21 July 2022 GY/ND)
Plan EDP 10	Bat Activity Transect Survey September (edp3253_d021a 21 July 2022 GY/ND)
Plan EDP 11	Badger Survey Results (edp3253_d010a 21 July 2022 MH/ND)
Plan EDP 12	Concept Masterplan (edp3253_d038d 06 October 2022 NBo/RAl)
Plan EDP 13	Post Development Habitats (edp3253_d043b 06 October 2022 GYo/NDo)

This version is intended for electronic viewing only

	Report Ref: edp3253_r006			
	Author	**Formatted**	**Peer Review**	**Proofed by/Date**
r006_DRAFT	JB/JSn	-	ND	-
r006a_DRAFT	JSn	FM	-	-
r006b	JSn	-	ND	NH 210722
r006c	Ndo	-	-	CLa 071022

This page has been left blank intentionally

Executive Summary

S1 The Environmental Dimension Partnership Ltd (EDP) was commissioned by Vistry Homes Ltd to undertake a range of baseline ecological investigations, in order to inform a planning application for a proposed development on Land east of Warwick Road, Banbury ('the Site').

S2 The baseline ecological investigations included a desk study, Extended Phase 1 survey and detailed (Phase 2) surveys, relating to hedgerows, breeding birds, roosting and foraging/commuting bats and badger. All surveys were undertaken with reference to best practice guidance.

S3 EDP's desk and field-based baseline investigations have identified no part of the Site is covered by any statutory designation of International or National significance, and there are none present within the zone of influence of the proposals. There are also no non-statutory designations present within the local landscape that are at risk of impacts resulting from the proposed development.

S4 The habitats on-site are predominantly habitats of only limited (less than Local-level) intrinsic nature conservation value, comprising mainly of large, intensively managed arable fields. However, locally valuable hedgerows, mature trees and woodland bound the fields, thereby providing a network of habitats across the Site that connects with the wider landscape.

S5 The on-site habitats support only small populations/typical assemblages of a number of protected/Priority Species (of Local-level nature conservation value or less), as follows: breeding bird assemblage, foraging/commuting bat assemblage and badgers. The habitats have the potential to support reptiles and amphibian species, hedgehogs and brown hare.

S6 Accordingly, a proportionate and appropriate ecology strategy response for the avoidance and mitigation of predicted impacts and ecological effects is considered in this report. Mitigation measures should include: inherent mitigation incorporated from the outset of the design (i.e. avoidance and habitat retention measures); those sensitive timings and working methods, which should be implemented at the construction stage and described in detail in an Ecological Construction Method Statement; those habitat enhancement and creation measures, which should be designed and specified in detail within a Soft Landscaping Scheme/Ecology Management Plan to ensure that the design vision is achieved in the long term.

S7 In summary, the ecological mitigation strategy for the scheme includes: (1) avoidance measures already embedded within the masterplan; (2) measures that should be incorporated at the construction stage; and (3) those that are designed and specified within the landscaping scheme. This includes the provision for off-site habitat management, to ensure suitable mitigation for the loss of arable habitat for farmland birds.

S8 At this stage, EDP considers that by virtue of the likely limited constraint posed by the ecological features on-site, coupled with the scope for habitat enhancement, the scheme is capable of compliance with wildlife legislation and relevant national and local planning policies for the conservation of the natural environment. Indeed, the scheme has potential to deliver a significant long-term ecology and wider ecosystem service benefits and achieve a net gain for biodiversity overall.

S9 On this basis, EDP considers that the scheme is capable of compliance with relevant planning policy for the conservation of the natural environment at all levels.

Section 1
Introduction, Purpose and Context

1.1 This Ecological Appraisal has been prepared by The Environmental Dimension Partnership Ltd (EDP) on behalf of Vistry Homes Ltd (hereafter referred to as 'the Applicant'). This appraisal considers the ecological implications of the proposed development at Land east of Warwick Road, Banbury.

1.2 In the context of this report anything within the red line boundary of the development will hereafter be referred to as "the Site" and anything within the wider blue line boundary, will be referred to as "the Study Area" (as shown on **Plan EDP 1**)

1.3 EDP is an independent environmental planning consultancy with offices in Cirencester, Cardiff and Cheltenham. The practice provides advice to private and public sector clients throughout the UK in the fields of landscape, visual amenity, ecology, archaeology, cultural heritage, arboriculture, agriculture, and masterplanning. Details of the practice can be obtained at our website (www.edp-uk.co.uk).

Site Description and Context

1.4 The Site is centered approximately at Ordnance Survey Grid Reference (OSGR) SP 43599 43087. The Local Planning Authority (LPA) is Cherwell District Council. The location and extents of the Site are illustrated on **Plan EDP 1.**

1.5 The Site measures approximately 12.63 hectares (ha). Located on the northern edge of Banbury, Cherwell, immediately east of B4100 Warwick Road. The Site comprises two cultivated arable fields, delineated by hedgerows and a tree lined farm track down the centre of the Site. A narrow band of woodland is present to the south of the southern Site boundary, beyond which lies the urban edge. The north and eastern edges are bounded by hedgerows, while the west is bounded by a hedgerow along Warwick Road. The wider Study Area consists of a single arable field with a small copse of woodland in the north-east corner. The small village of Hanwell lies just to the north, across further arable fields, that make up much of the wider landscape along the northern edge of Banbury.

Development Proposals

1.6 The proposed development is for residential dwellings together with access, landscaping, open space and green corridor access links. Vehicular access will be provided in the south-west of the Site. The ecological sensitives of the Site have influenced the design of the layout through an iterative design process. Thus, the Concept Masterplan incorporates a degree of 'inherent' mitigation to avoid or reduce potential adverse ecological effects.

Scope of this Appraisal

1.7 This Ecological Appraisal describes the current ecological interest within and around the Site, which has been identified through standard desk and preliminary field-based investigations. It considers the potential ecological impacts and opportunities for ecological enhancement for the Site, in the context of relevant legislation and planning policy. Finally, this assessment identifies further ecological surveys required to inform a full ecological impact assessment, along with providing high-level advice on likely avoidance, mitigation or compensation measures for potential ecological impacts.

1.8 The remainder of this report is structured as follows:

- **Section 2** summarises the methodology employed in determining the baseline ecological conditions within and around the Site (with further details provided within Appendices and on Plans where appropriate);

- **Section 3** summarises the baseline ecological conditions (with further details provided within Appendices and on Plans where appropriate) and identifies and evaluates any pertinent ecological features/receptors that require further consideration;

- **Section 4** describes the development proposals, how the design has been influenced by ecological factors, EDP input to the design process and key components of inherent mitigation;

- **Section 5** considers the potential impacts of the proposals on pertinent ecological features in the context of legislative, planning policy and biodiversity action planning considerations, and provides recommended mitigation and enhancement measures to provide net gains for biodiversity; and

- **Section 6** summarises the inherent and recommended additional mitigation measures and provides the overall conclusions of the appraisal.

Section 2
Methodology (Baseline Investigations)

2.1 This section of the report summarises the methodologies employed in determining the baseline ecological conditions within and around the Site. The baseline has been undertaken by appropriately qualified ecologists using relevant best practice methodologies wherever possible. Full details of the techniques and processes adopted are, where appropriate, provided within Appendices and on Plans to the rear of this report.

Desk Study

2.2 The desk study is an important element of undertaking an initial Ecological Appraisal of a site proposed for development, enabling the initial collation and review of contextual information, such as designated sites, together with known records of protected and priority species.

2.3 The desk study involved collating biodiversity information from the following sources:

- Thames Valley Environmental Records Centre (TVERC);
- Warwickshire Biological Records Centre (WBRC);
- Multi-Agency Geographic Information for the Countryside (MAGIC) website[1]; and
- Freely available aerial photography from Google Maps and Ordnance Survey mapping.

2.4 The desk study was undertaken during April 2021. This involved obtaining the following information:

- International statutory designations (10km);
- National statutory designations (5km);
- Non-statutory local sites (2km);
- All other protected/notable species records (2km); and
- Annex II bat species records (6km).

2.5 These search areas are considered sufficient to cover the potential zones of influence [2] (ZoI) of the proposed development in relation to designated sites, habitats and species.

[1] www.magic.gov.uk
[2] Zone of Influence - the areas and resources that may be affected by the proposed development

2.6 Correspondence was made with the Ecology Officer of Cherwell District Council, in respect of likely ecological sensitivities pertaining to the Site and necessary survey scope, though no response was received.

Extended Phase 1 Survey

2.7 The survey technique adopted for the initial habitat assessment was at a level intermediate between a standard Phase 1 survey technique[3], based on habitat mapping and description, and a Phase 2 survey, based on detailed habitat and species surveys. The survey technique is commonly known as an Extended Phase 1 survey. This level of survey does not aim to compile a complete floral and faunal inventory for the site.

2.8 The level of survey involves identifying and mapping the principal habitat types and identifying the dominant plant species present in each principal habitat type. In addition, any actual or potential protected species or species of principal importance are identified and scoped.

2.9 The Extended Phase 1 Habitat survey of the Site was undertaken by a suitably experienced surveyor on 06 May 2016, with update surveys completed on 09 April 2021 and 26 April 2022. April is within the optimal range for botanical surveys, so we do not consider this survey to be climatically or seasonally constrained. Further details of the Extended Phase 1 survey, habitat descriptions and site photographs are provided within **Appendix EDP 1**.

2.10 A habitat condition assessment was completed in tandem with the Extended Phase 1 to ensure that sufficient information was collated to inform a Biodiversity Impact Assessment.

Detailed (Phase 2) Surveys

2.11 The scope of Phase 2 surveys undertaken at the Site was defined following the initial studies described above (desk study and Extended Phase 1 survey). The surveys 'scoped in' are summarised in turn below and a brief explanation of those potential surveys 'scoped out' is provided thereafter.

Hedgerow Survey

2.12 Owing to the presence of a network of hedgerows within the Site, with variable quality and species-diversity, a detailed survey was undertaken to assess their value with reference to the Wildlife and Landscape criteria provided in Part II of Schedule 1 of the *Hedgerows Regulations* 1997. The survey was completed on 09 May 2021, further details are provided in **Appendix EDP 2**, with hedgerow locations and references provided on **Plan EDP 1**.

[3] Joint Nature Conservation Council (2004) *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit* (reprinted with minor corrections for original Nature Conservancy Council publication).

Breeding Bird Survey

2.13 The value of the Site for breeding birds was assessed through the completion of a breeding bird survey, undertaken between April and June 2021, to identify the species making up the breeding bird assemblage on-site and the habitat of greatest value to those species, and to assess the value of the assemblage. The survey was undertaken with reference to the Common Bird Census (CBC) approach, as detailed in **Appendix EDP 3** and illustrated on **Plans EDP 2** to **4**.

Bat Surveys

Bat Roosting - Trees

2.14 With reference to best practice guidance[4], trees within the Site were visually assessed from ground level for the presence of bats/evidence of bats and potential to support roosting bats, by a suitably experienced ecologist, on 18 May 2021. This included searching for the presence of potential bat roosting features such as: lost/peeling/fissured bark; natural holes e.g. rot holes and holes from fallen limbs; woodpecker holes; cracks/splits or hollow tree trunks/limbs; and thick-stemmed ivy. On the basis of this, trees were assigned a rating of low, medium or high potential.

2.15 Locations of the trees, together with their corresponding reference numbers, are shown on **Plan EDP 5** and further details provided in **Appendix EDP 4**.

Bat Foraging/Commuting

2.16 Features such as trees, hedgerows and woodland within the Site were identified as being potentially suitable for foraging and commuting bats. Therefore, bat activity was investigated through a combination of manual transect surveys and automated detector surveys undertaken in May, July and September 2021.

2.17 Full details of the bat surveys undertaken are provided in **Appendix EDP 4** and detailed on **Plans EDP 6** to **10** inclusive.

[redacted]

[4] Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London.

[redacted]

Surveys Scoped Out

2.20 Other Phase 2 surveys scoped out, with reasons provided as to why they were not considered necessary/appropriate, are described in **Table EDP 2.1**.

Table EDP 2.1: Ecology Surveys Scoped Out

Survey Type	Reasons for Scoping Out
Botanical Surveys	Extended Phase 1 Habitat survey information was sufficient to confirm habitat value, with no indication of particularly high value habitats present.
Dormouse Survey	Dormice are rare in Oxfordshire, and no local records were returned in the desk study. Given the likely absence of this species from the local landscape, further surveys were scoped out.
Great Crested Newt Surveys	While there are ponds within 500m, none are within 400m, and all have suitably low Habitat Suitability Index scores that GCN surveys could be scoped out.
Reptile Survey	Intensive agriculture and significant trampling of field margins by local walkers has resulted in bare earth between the hedgerows and arable crop, such that suitable basking habitat for reptiles is significantly limited. Potential impacts could also be mitigated through precautionary clearance methods.
Otter and Water Vole Survey	No wet ditches or watercourses on-site that could provide suitable habitat or passage.
White - clawed Crayfish Survey	There are no suitable watercourses within 500m of the site.
Invertebrate Surveys	Paucity of suitable habitat with Site, dominated by large open intensively grazed fields. Higher quality woodland, ditch and hedgerow habitat will act as a surrogate in protecting limited invertebrate potential.

Biodiversity Net Gain

2.21 To calculate biodiversity net gain, as required by the *National Planning Policy Framework* (NPPF) and *Policy ESD 10: Protection and Enhancement of Biodiversity and the Natural Environment, within the* Cherwell District Local Plan 2011 – 2031 (adopted 2016), a Biodiversity Impact Assessment (BIA) metric is used. This is a transparent way to calculate the biodiversity value of the habitats and hedgerows on a site, before and after development. It is a proxy measure to determine if the development will result in an on-site habitat biodiversity net loss or gain. Full details of the Biodiversity Impact Assessment are provided in **Appendix EDP 6**.

2.22 A BIA was undertaken using the Department for Environment, Food and Rural Affairs (Defra) Biodiversity Metric 3.1 (version date: 21/04/2022), by an experienced ecologist.

2.23 The assessment was undertaken based on the existing habitat information derived from the Extended Phase 1 Habitat survey (**Plan EDP 1**) and the Concept Masterplan (**Plan EDP 12**). GIS software has been used to accurately calculate areas of habitat to be retained, enhanced and created.

Evaluation

2.24 In 2013, the UK Biodiversity Action Plan (BAP) Priority Habitats and Priority Species, and the Section 41 Species and Habitats of Principal Importance for Conservation under the *Natural Environment and Rural Communities Act* (NERC) 2006, were rationalised under the 'Post-2010 Biodiversity Framework'. As a result, a new list of Priority Species and Priority Habitats is now in operation at the UK level, with 24 Priority Habitats and 213 Priority Species. These lists are provided in Biodiversity 2020, which is the National Biodiversity Policy for England.

2.25 Within this Ecological Appraisal, where relevant, these species and habitats of national nature conservation priority will therefore be referred to as 'Priority Species' and 'Priority Habitats', except where indicated otherwise.

2.26 Where a particular ecological feature/receptor has been confirmed to be present, or presence is inferred based on habitat suitability, the ecological value or significance of the population or assemblage is assessed with reference to best practice guidance. Ecological features have been assessed on a geographic scale of International/European > National > County > District > Local > Site > Negligible, according to professional judgement based on criteria such as size/extent, connectivity, species-richness, distinctiveness, ecosystem function and population size/rarity.

This page has been left blank intentionally

Section 3
Results (Baseline Conditions)

3.1 This section summarises the baseline ecological conditions determined through the course of the desk- and field-based investigations described in **Section 2**. In particular, it identifies and evaluates those valuable ecological features that lie within the Site's potential ZoI and which are pertinent in the context of the proposed development.

3.2 Further technical details are, where appropriate, provided within Appendices and on Plans to the rear of this report.

Designated Sites

3.3 Information regarding designated sites was obtained during the Desk Study from the MAGIC website, TVERC and WBRC. Statutory designations (those receiving legal protection) and non-statutory designations (those receiving planning policy protection only) are discussed in turn below.

Statutory Designations

3.4 Statutory designations represent the most significant ecological receptors, being of recognised importance at an International and/or National level. International designations include Special Protection Areas (SPA), Special Areas of Conservation (SAC) and Ramsar Sites. National designations include Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR).

3.5 No part of the Site is covered by any statutory designation and there are no Internationally designated sites within 10km of the Site. There is a single Nationally designated site, Neithrop Fields Cutting is a SSSI, designated for its geological features; this is 800m south of the Site and therefore is outside the scope of this report.

Non-statutory Designations

3.6 Non-statutory designations are also commonly referred to in planning policies as 'Local sites', although in fact these designations are typically considered to be important at a County level. In Cherwell, such designations are named Conservation Target areas (CTA), Oxfordshire Local Wildlife Site (OLWS) and Proposed Cherwell District Wildlife Site (PCDWS).

3.7 No part of the Site is covered by any non-statutory designations, though there are five such designations within the Site's potential ZoI, as summarised within **Table EDP 3.1**.

Table EDP 3.1: Non-statutory Designations within the Site's Potential Zone of Influence

Designation	Distance from Site	Interest Feature(s)
Fishpond Woods Hanwell OLWS	0.5km north	A series of medieval ponds surrounded by woodland spread across an 8.17ha site. GCN are not noted to be present.
Northern Valleys CTA	0.8km west	This 1395ha site encompasses several steep sided valleys supporting acid to neutral grassland, with scattered fens and swamps.
Hanwell Gorse PCDWS	1.1km north-east	Supporting a variety of habitats, this 3.5ha site includes lowland mixed deciduous woodland, acid grassland and a stream with an associated marsh along the northern site boundary.
Horley Scout Camp PCDWS	1.4km west	A former nature reserve, a small site of 5.3ha including woodland and an old railway embankment.
Horley OLWS	1.5km north-west	A complex 24.35ha site surrounding a disused railway, incorporating limestone grassland, woodland, scrub, fen and several ponds.

Habitats

3.8 Information on habitats within and around the Site was obtained during the desk study, Extended Phase 1 Habitat surveys and Hedgerows Regulations assessment.

3.9 The distribution of different habitat types within and adjacent to the Site is illustrated on **Plan EDP 1**. In addition, detailed descriptions of these habitat types, together with illustrative photographs, are provided in **Appendix EDP 1**.

3.10 The full results of the detailed hedgerow survey are provided in **Appendix EDP 2**. In summary, three of the nine hedgerows surveyed (within the Site) qualify as 'Important' under the *Hedgerow Regulations* 1997, namely hedgerows H1, H3, H5, and H7.

3.11 A summary and qualitative assessment of the habitats is provided in **Table EDP 3.2**.

Table EDP 3.2: Summary of Habitats within the Site

Habitat or Feature	Distribution within Site	Intrinsic Ecological Importance
Arable	The vast majority of the site is made up of two field parcels delineated by hedgerows and an old farm track down the centre. Hard packed earth footpaths cross two of the parcels and have been formed by walkers around the edges of all the fields.	**Negligible**, owing to intensive cultivation and absence of notable margins.
Improved Grassland	Margins of the arable fields, narrow, largely <1m and heavily trampled, such that they support little to no grass and are typically hard-packed earth.	**Site-level**, owing to limited botanical diversity and intensive management.

Habitat or Feature	Distribution within Site	Intrinsic Ecological Importance
Hedgerows	Hedgerow network delineating the majority of the field boundaries, with a mixture of species-rich hedgerows and species-poor hedgerows.	**Local-level**, owing to species-diversity and connectivity across the Site.
Tall Ruderal and Scattered Scrub	Small patch on northern Study Area boundary, East of the old farm track.	**Site-level,** owing to small extent of habitat areas and lack of distinctness.
Mixed Plantation Woodland	A band of immature mixed plantation woodland runs parallel, though separate from, the Site's southern boundary.	**Local-level,** owing to limited extent but connectivity it provides to wider landscape.
Tall Ruderal and Scattered Scrub	Small patch on northern Study Area boundary, East of the old farm track.	**Site-level,** owing to small extent of habitat areas and lack of distinctness.
Broad-leaved Semi-natural Woodland	A small block of broad-leaved semi natural woodland is present bordering the north-east corner of the Study Area.	**Local-level**, owing to limited extent but connectivity it provides to wider landscape.

3.12 As noted within **Table EDP 3.2**, the vast majority of the Site is dominated by intensively managed agricultural land of negligible ecological importance, though the hedgerow network and mature trees are considered to be of Local-level importance.

3.13 A number of the habitats or other features which are of negligible, or low (Site-level) intrinsic importance may also require consideration in relation to their importance in maintaining populations of protected and/or notable species. This is discussed further below.

Protected and/or Notable Species

3.14 The likelihood of presence, or confirmed presence, of protected and/or notable species within the Site is summarised below with reference to desk study records, habitat suitability and detailed surveys where relevant. Further details are made available within appendices and plans where referenced.

3.15 Where a particular species or taxonomic group has been confirmed to be present, or presence is inferred based on habitat suitability, the ecological importance or significance of the population or assemblage is assessed on a geographical scale.

Birds

3.16 The desk study returned a small number of records of notable birds, including 85 species of Amber or Red list conservation concern. The most pertinent of which, based on the habitats present, are considered to include Red list species: sky lark (*Alauda arvensis*), corn bunting (*Emberiza calandra*), lapwing (*Vanellus vanellus*), mistle thrush

(*Turdus viscivorus*), house sparrow (*Passer domesticus*), fieldfare (*Turdus pilaris*) and redwing (*Turdus iliacus*).

3.17 To provide a baseline understanding of the bird assemblage using the Site, a breeding bird survey was undertaken with survey visits on 08 April, 05 May and 04 June 2021, by an experienced ornithologist. Full results of the breeding bird survey are provided in **Appendix EDP 3** and with results illustrated on **Plans EDP 2** to **4**. The findings are summarised below.

3.18 During the breeding bird survey, 31 species were recorded in total. Of these, 20 were common and widespread (Green list or no status) species. Of the remainder, four were Red list species and seven Amber list.

3.19 Of the species of conservation concern, it is considered likely that small numbers of dunnock (*Prunella modularis*), wren (*Troglodytes troglodytes*), whitethroat (*Sylvia communis*), and yellowhammer (*Emberiza citrinella*) breed on-site, in association with the boundary hedgerows. Starling (*Sturnus vulgaris*) are likely to nest in the residential area to the south.

3.20 Skylark (*Alauda arvensis*) have been recorded nesting within the Site's field parcels and adjacent arable land making up the wider landscape, with the Study Area supporting up to seven territories.

3.21 Other species of conservation concern considered likely to be breeding on, or adjacent to the Site, include small numbers of Bullfinch (*Pyrrhula pyrrhula*) meadow pippit (*Anthus pratensis*), song thrush (*Turdus philomelos*), linnet (*Linaria cannabina*) and Greenfinch (*Chloris chloris).*

3.22 Based on the survey findings, the breeding bird population supported by the Site is considered to be of Site-level ecological importance.

Bats

3.23 The data from the TVRC and WBRC both contained many common and widespread species, including common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeaus*) brown long-eared (*Plecotus auritus*), serotine (*Eptesicus serotinus*), Daubenton's (*Myotis daubentonii*), Natterer's (*Myotis nattereri*) and unidentified bats. The most recent roost records, from 2019, pertain to a cluster of buildings in Wroxton, c.2.0km east of the Site, accounting for most long-ear records as well as several pipistrelles. While the majority of myotis records are associated with a roost c.4.3km north of Site. In addition, there are a total of five records for western barbastelle (*Barbastella barbastellus*), although no known roosts are documented. Finally, no bat records were returned from within the Site.

Bat Roosting – Trees

3.24 No bats, or evidence thereof, were identified during the ground level roost assessment. However, nine trees were identified with potential for roosting bats; of these three had medium potential (T3, T5 and T6) and three had low potential (T1, T2, T4, T7 and T8). One tree within the wider Study Area had high potential (T9), The locations of trees with bat roost potential are illustrated on **Plan EDP 5**.

Bat Foraging/Commuting Activity

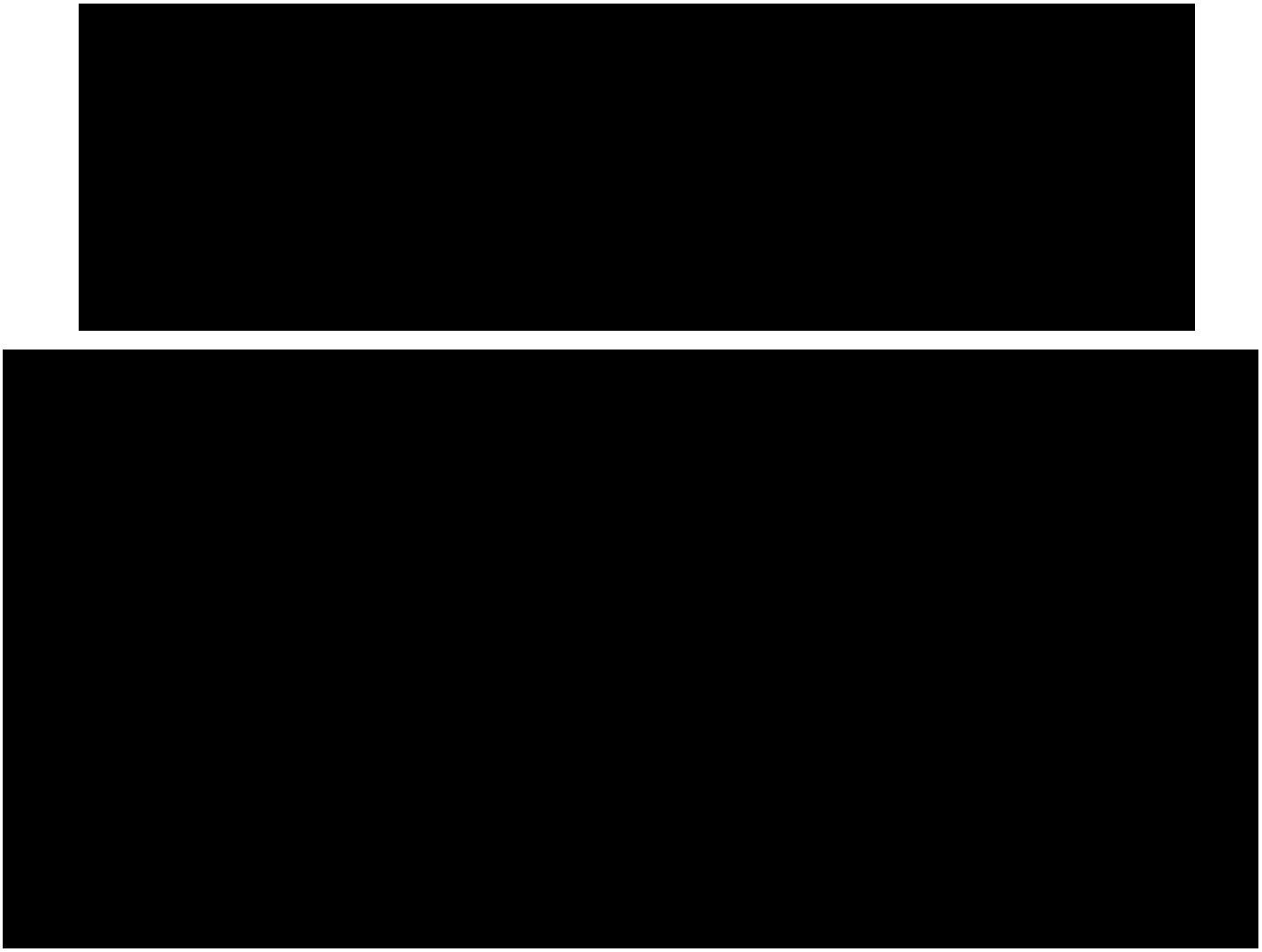
3.25 The transect surveys recorded low to moderate levels of bat foraging/commuting activity across the Site, with typical and widespread species including common pipistrelle and soprano pipistrelle bats accounting for the vast majority of recordings made. Occasional registrations of soprano pipistrelles and noctule were also made and with low numbers of *myotis* sp., long eared bat and barbastelle registrations.

3.26 As with the transect surveys, the assemblage of bats recorded by the automated detectors was dominated by common and soprano pipistrelle, with noctule and *Myotis* sp. also recorded on a regular basis across the survey periods. Other species recorded occasionally during the survey months were long-eared bats, Leisler's, serotine, Nathusius pipistrelle and barbastelle bats, all of which were typically recorded very infrequently.

3.27 Of note was the presence of barbastelle, which were absent in July, though were recorded during the May and September automated detector deployments. Registrations in May totalled four, however, this increased to 48 registrations in September, across four detectors and five survey nights. The overall number of recordings is still low, suggesting that the Site does not provide optimal habitat for foraging barbastelle, however their presence across the survey months suggests that the Site does provide some potential for opportunist foraging as part of their wider sustenance zone.

3.28 Based on the survey findings, the bat population supported by the Site is considered to be of Local-level ecological importance.

3.29 Full details of the survey results are provided in **Appendix EDP 4** and illustrated on **Plans EDP 7** to **10** inclusive.



Other Mammals

3.35 The desk study returned eight records of hedgehog (*Erinaceus europaeus*), one of which was in Hanwell Fields, off Duke Meadow's Drive. No specific surveys for hedgehog were completed, however suitable hedgerow and woodland habitat is present within the Site and as such, presence is considered likely and therefore hedgehog welfare should be considered during construction.

Summary of Key Issues Arising from Survey Findings

- Non-statutory designations – Fishpond Woods Hanwell LWS is located within 0.5km of the Site and the Northern Valleys CTA is located within 1km;
- Locally valuable habitats - including hedgerow network, mature trees and adjacent mixed plantation woodland;
- Birds – assemblage of common and widespread species of Local-level value confirmed;

- Bats – presence of mostly common and widespread assemblage of foraging/-commuting bats and low numbers of rarer species, assemblage of Local-level value. Presence of eight on-site trees with potential to support roosting bats.

[redacted]

- Reptiles – small extent of suitable habitat present, unlikely to support notable populations of common and widespread reptile species; and

- Hedgehog – not surveyed but likely present within the local landscape.

This page has been left blank intentionally

Section 4
Details of Proposed Development

4.1 Based on the review of the baseline conditions, this section of the Ecological Appraisal provides pertinent details of the proposed development, in particular those aspects, which have potential implications for the ecological features/receptors identified in **Section 3**. Where relevant, reference is made to the influence that ecological considerations have had in the scheme's design and any inherent mitigation, which avoids or reduces the severity of potential ecological impacts.

4.2 The proposed Concept Masterplan outlines dwellings and provision of public open space with associated infrastructure and earthworks. Due to the topology of the Site, it is envisaged that the modestly sized development will be nestled within extensive landscape setting of woodland, wildflower meadow and oak parkland. Nature restoration is the focus of the landscape proposals, with over half of the Site devoted to habitat creation and a significant biodiversity net gain targeted. The potential layout and associated landscaping are shown on the Concept Masterplan (**Plan EDP 12**).

4.3 EDP has provided input throughout the iterative design process, so the Concept Masterplan reflects some important measures, suggested by EDP, to avoid, mitigate or compensate for ecological impacts, as well as other measures designed to provide long-term ecological enhancements. As a result, the development footprint is almost entirely confined to a small area of arable land, considered to be of negligible intrinsic ecological value. In summary, such measures include:

- Retention and buffering of the most valuable vegetation, comprising mature trees and hedgerows, in particular the double hedgerow running north to south through the centre of the Site;
- Tree, shrub and hedgerow planting to strengthen and enhance habitat corridors and delineate private gardens, particularly along the northern and western boundaries;
- Extension of existing woodland habitat in the north-east and north-west of the Site;
- Creation of wildflower grassland, with oak tree parkland creation in large green spaces;
- Creation of a new attenuation feature designed with permanent water and adjacent wildflower grassland, to provide enhanced opportunities for wildlife outside the core development area;
- Enhancement of existing public right of way with integrated green corridor; and
- Landscaping of Development parcels with green verges and rain gardens.

4.4 With regards to particular species interests identified within the Site the development layout has sought to:

- Retain trees with suitability to support roosting bats;
- Provide increased connectivity across the Site and local landscape through additional planting along retained and buffered boundaries;
- Retain and buffer the onsite badger setts within an area of green open space; and
- Provide enhanced foraging opportunities for badger within species rich grasslands and new woodland.

4.5 Development in the arable land will have negligible impacts on the potential species assemblages identified through the ecological surveys, which is discussed further in **Section 5**.

4.6 The boundary habitats of greater ecological value, including hedgerow, mature trees and woodland edges have been retained and buffered from the development, wherever possible, through the incorporation of wide green corridors along the peripheries of the residential development and existing right of way. The corridors offer opportunities for ecological enhancement though landscaping designed to benefit biodiversity and wildlife, for example, woodland planting and wildflower grassland creation.

4.7 To facilitate the creation of an access point, loss of c.95m of hedgerow will be required on the western Site boundary. The loss of the small section of hedgerow will be mitigated through additional planting of hedgerows throughout the development and extension of the existing woodland in the north. This planting will improve the diversity of species present within the Site and the woodland will be incorporated into a woodland management scheme, to improve its structure and value for biodiversity.

4.8 If any trees with bat roosting potential are identified as being unsafe during the arboricultural survey, and as such will be subject to works to reduce their potential to injure the local public, efforts will be made to retain the tree in a reduced form through coppicing or pollarding where possible.

4.9 Large areas of green open space will be incorporated into the design to the north-west and east of the development, including wildflower grassland with oak tree parkland, seeded with native species-rich wildflower grassland mixes designed to provide flowers through spring, summer and into autumn, improving foraging opportunities for insects including bees.

4.10 The existing public right of way will be integrated into the proposed development blocks via a green corridor. The development blocks will have green space incorporated throughout, including a neighboured green and the main access road delineated by a green verge and trees.

4.11 The attenuation features will be designed to hold permanent water and will provide additional value for biodiversity, with native species-rich wet grassland seed mixes used on the banksides and aquatic vegetation in the wetter areas.

4.12 Habitat features will be incorporated into the open space for the benefit of hedgehogs (*Erinaceus europaeus*), invertebrates, reptiles and amphibians. Roosting boxes for birds and bats will be incorporated into new dwellings or mounted onto retained trees throughout the development. Badger setts, within and adjacent to the Site, will be retained and protected during the works, with significant areas of suitable foraging opportunities available to the north and east of the Site.

4.13 With this mitigation in place the impacts on species potentially present within the Site are considered to be minor during construction, temporary in nature and the development will provide a net gain in high quality foraging habitats and biodiversity once in operation.

4.14 A vision for the open spaces and natural areas is provided in the Concept Masterplan (**Plan EDP 12**). Further measures designed to ensure that the proposals enhance the natural environment '*minimising impacts on and providing net gains for biodiversity*' in accordance with paragraph 174 of the NPPF, are discussed further in **Section 5**.

This page has been left blank intentionally

Section 5
Predicted Impacts and Mitigation

5.1 This section of the Ecological Appraisal considers the likely impacts of the proposed development (as shown on the Concept Masterplan, included as **Plan EDP 12**), on the existing ecological resource. Where impacts cannot be avoided by inherent mitigation alone, additional mitigation or enhancement measures are recommended. These, if implemented, would as a minimum enable the proposed development to meet legislative and/or planning policy requirements.

5.2 In accordance with the *Natural Environment and Rural Communities* (NERC) *Act* 2006, within England, LPAs have a statutory duty to have regard to effects upon biodiversity when exercising their functions; this includes consideration of effects upon ecological features such as designations, and priority habitats/priority species when determining planning applications. In accordance with planning policy at all levels, LPAs must also consider whether or not 'significant harm' to biodiversity may occur due to effects upon such ecological features. This, and the statutory protection afforded to certain designations and species, is explored in further detail below.

Habitats and Biodiversity Net Gain Calculations

5.3 There are several mechanisms through which habitats receive protection in addition to the statutory and non-statutory designated site frameworks. For instance, certain habitats are identified in policies within the NPPF. Furthermore, the NPPF states:

"180. when determining planning applications, local planning authorities should apply the following principles:

a) If significant harm to biodiversity resulting from a development cannot be avoided (through locating on alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

c) development proposals resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity improvements in and around developments should be integrated as part of their design, especially where this can secure measurable net gains in biodiversity or enhance public access to nature where this is appropriate."

5.4 At a local level, *Policy ESD 10: Protection and Enhancement of Biodiversity and the Natural Environment, within the* Cherwell District Local Plan 2011 – 2031 (adopted 2016), states

that protection and enhancement of the natural environment will be achieved by (amongst other actions) the following:

- *"In considering proposals for development, a net gain in biodiversity will be sought by protecting, managing, enhancing and extending existing resources, and by creating new resources;*

- *The protection of trees will be encouraged, with an aim to increase the number of trees in the District;*

- *Development which would result in damage to or loss of a site of biodiversity or geological value of regional or local importance including habitats of species of principal importance for biodiversity will not be permitted unless the benefits of the development clearly outweigh the harm it would cause to the site, and the loss can be mitigated to achieve a net gain in biodiversity/geodiversity;*

- *Development proposals will be expected to incorporate features to encourage biodiversity and retain and where possible enhance existing features of nature conservation value within the site. Existing ecological networks should be identified and maintained to avoid habitat fragmentation, and ecological corridors should form an essential component of green infrastructure provision in association with new development to ensure habitat connectivity the biodiversity and geological value of land and buildings and minimise harm to or loss of environmental features, such as trees, hedgerows, woodland, wetland and ponds;*

- *Planning conditions/obligations will be used to secure net gains in biodiversity by helping to deliver Biodiversity Action Plan targets and/or meeting the aims of Conservation Target Areas. Developments for which these are the principal aims will be viewed favourably; and*

- *A monitoring and management plan will be required for biodiversity features on site to ensure their long term suitable management."*

Designations

Non-statutory Designations

5.5 As described in **Section 3**, there are five non-statutory designations within the potential ZoI of the Site. One of these is Northern Valleys Conservation Target Area (CTA). A CTA is used to identify where the greatest gains can be made from habitat enhancement, restoration and creation, as these areas offer the best opportunities for establishing large habitat areas and/or networks of wildlife habitats. As the Site does not fall within or adjacent to the CTA, the proposed development will not have a detrimental effect on the purpose of the designation, and as such, it will not be considered further.

5.6 With respect to the remaining non-statutory designations, Fishponds Woods is the only one within 1km of the Site. Owing to their reasons for designation and/or their spatial separation from the Site, combined with the absence of any direct habitat linkage/pathways, it is considered extremely unlikely that any significant and adverse effects will occur to any of the off-site non-statutory designations, as a result of the proposed development. Therefore, impacts on the non-statutory designated sites are unlikely to be considered significant.

5.7 Whilst impacts relating to increased recreational pressures are considered unlikely to be significant, it is proposed significant areas of attractive public open green space and accessible routes for recreation will be provided in the north and east of the Site, allowing for activities such as dog walking and recreation.

Habitats

5.8 Habitats within the Site and along the Site boundaries have been assessed through an Extended Phase 1 Habitat survey. The majority of the Site comprises intensively cultivated arable land, which is considered to be of negligible intrinsic ecological value, such that development in these areas would have a minimal impact on biodiversity. However, the hedgerows, scattered trees and plantation woodland are of Local ecological value. These locally valuable habitats do not pose an 'in principle' constraint to the development, though the masterplan proposals have sought to retain these features and compensate for any losses, with enhancement and new habitat creation within the Site wherever possible.

5.9 As a result of an iterative design process, in which ecological sensitivities were considered, the majority of the development footprint is contained within the habitats of negligible ecological value, predominantly the arable land. The majority of valuable hedgerow, mature tree and woodland edge habitats have been retained and buffered from development, with unavoidable losses associated with access requirements only.

5.10 To avoid damage/disturbance of these retained features during construction, it is recommended that Ecological Protection Zones (EPZs) with an appropriate buffer should be established during the construction phase. EPZs can often be achieved through co-ordination with tree protection measures required as good arboricultural practice, including temporary protective fencing and signage.

5.11 Impacts on the more valuable habitats have been confined to an essential minimum, with loss of *c*.95m of hedgerow along the western site boundary (H2, which is species-poor and has not been identified as 'important' under the *Hedgerows Regulations*) required for access. The magnitude and extent of direct habitat impacts is, therefore, relatively low. These losses can be mitigated and compensated through the enhancement of the existing hedgerows and additional planting of hedgerows throughout the development.

5.12 Given that the habitats within the Site to be impacted are considered to be of low intrinsic ecological value, there is significant scope for habitat enhancement, restoration and creation within the wider areas of proposed public open space (POS). The ecological

enhancement measures are described above in relation to the vision for the open spaces and natural areas provided in the Concept Masterplan (**Plan EDP 12**).

5.13 Such measures should be incorporated into the detailed Soft Landscaping Scheme for the Site, along with specifications for new planting and other habitat creation. In addition, it is recommended that measures to restore and enhance existing habitats, to ensure successful establishment of new habitats, and to maintain the value of all ecological features in the long-term, are detailed within an Ecological Management Plan (EMP) secured by planning condition.

Biodiversity Impact Assessment

5.14 In light of the habitat losses, gains and enhancements, a Biodiversity Impact Assessment calculation has been completed using the Department for Environment, Food and Rural Affairs (Defra) Biodiversity Metric 3.1 (July 2021), to objectively determine the overall biodiversity impact of the proposals. The results of this calculation are provided in **Appendix EDP 6** and the Post Development Habitats illustrated on **Plan EDP 13**. Notes are included in the calculator comments field to justify the parameters used.

5.15 The proposed development is considered to be capable of meeting biodiversity planning policy requirements at a Local and National level, including emerging policy requiring a 10% net gain in biodiversity. The calculations suggested that positive gains in biodiversity are achievable, resulting in a net gain of +10.04 habitat units equating to a +39.90% gain. A net gain of linear habitat (hedgerow) units of +1.10 is currently delivered, equating to a +10.83% gain.

5.16 The project is currently at outline stage and therefore, the post-development BIA calculations will evolve as the Site plan is developed. Therefore, the results presented here are indicative only, but demonstrate that a net gain in habitat and linear units is achievable.

5.17 Some of the habitats present within or adjacent to the Site, including those of low intrinsic value, require further consideration in relation to supporting protected species, as discussed below.

Protected and/or Notable Species

5.18 Certain species receive legal protection in the United Kingdom and are commonly known as 'Protected Species'. The level of protection for different species varies considerably, from protection solely against 'killing and injury' to full protection of the species and their places of refuge. Where pertinent, details of legal protection afforded to species/species-groups are provided below.

5.19 In addition to protected species, there are other species/species-groups that do not receive legal protection, but which are notable owing to their conservation status. In particular, UK Priority Species, which, in England, planning authorities have a duty to have regard to,

under the NERC *Act* 2006. Details of any actual or potential notable species within the Site are identified below.

5.20 With respect to planning policy, protected and notable species are afforded policy protection at a national level by the NPPF (paragraph 180) and at a local level by Policy ESD 10 of the Cherwell District Local Plan (2016).

5.21 Baseline investigations have identified protected species implications for the Site relating to breeding birds, bats, and badgers, which are discussed in turn below.

Breeding Birds

Status

5.22 All wild birds, their nests and eggs are protected under Section 1 of the *Wildlife and Countryside Act* 1981 (as amended), with certain species afforded additional protection measures. In addition, certain conservation concern species are listed as Priority Species.

5.23 The hedgerows, trees and woodland edges, within the Site provide suitable breeding habitat to support common and widespread species of birds. Owing to the small size and limited diversity of habitats currently present, the Site supports an assemblage of breeding birds that is relatively limited in diversity and abundance and comprising common and widespread generalist species. The retention of the majority of the Site's boundaries will minimise any impacts upon the breeding bird assemblage potentially present.

5.24 Inherent mitigation incorporated into the Concept Masterplan at this stage includes the retention, buffering and favourable management of the boundary vegetation wherever possible. Habitat enhancement measures include woodland creation, tree planting and wildflower grassland creation, which will enhance the on-site habitat and provide further buffering to the retained boundary habitats. A new attenuation feature will provide further habitat diversity across the proposed open space. Furthermore, the value of the retained habitats will be increased through more sensitive management practices.

5.25 It is likely that the proposed development will displace a small number of breeding skylark, given the nature of the development and the habitats preferred by this species. The suitability of the Site to support skylark is likely to vary from year to year, depending on the cropping regime, with some crops of greater value than others and as such, it is likely that usage of the Site naturally varies. Therefore, it is expected that the Site and the skylark population are part of a wider network of habitats providing a supporting role for a meta-population that use the Site as a part of their range. The loss of two fields from this habitat is not considered likely to cause a significant adverse effect on the local skylark population. The small numbers can be readily accommodated within the field to the east of the proposed development blocks, which only had one skylark territory recorded so has capacity to support more territories.

5.26 Little or no breeding habitat will be lost as a result of the development, however, enhancement could increase the nesting and foraging resources within the Site for

breeding birds. Provision of suitable bird boxes that can be integrated or erected onto new buildings within the Site (such as house sparrow terraces, swift 'nest bricks' and swallow 'cups'), and on retained mature trees on Site boundaries. It is recommended that the quantum, design and location of integrated bird nesting features is designed with reference to CDCs *Biodiversity in the Built Environment, Good Practice 1, Preservation of Existing Sites and Provision of Artificial Nesting Sites* (September 2019).

5.27 For the reasons described above, it is not considered that the proposed development will have a significant impact on the local bird populations. However, given the protection afforded to all breeding birds, their nests, eggs and young, any removal of or disturbance to vegetation on-site or immediately adjacent to the Site which is considered to offer potential nesting habitat for breeding birds (i.e. hedgerows, trees and woodland or arable land if of a sufficient height to provide potential habitat for ground-nesting birds such as skylark), should be undertaken outside of the breeding season, between September and February inclusive. Alternately, if this is not practical, immediately following inspection for active nests by a suitably qualified ecologist.

Bats

5.28 All species of British bat and their roosts are afforded strict protection under the *Conservation of Habitats and Species Regulations* 2017 (as amended). Additional protection for bats is also afforded under the *Wildlife and Countryside Act* 1981 (as amended) and a subset of the British bat assemblage are listed as UK Priority Species.

Bat Roosting

5.29 There are eight trees within the Site offering potential for roosting bats, with potential ranging from medium to low. At this stage, the trees will not be impacted directly or indirectly by the proposals. Based on the Concept Masterplan (**Plan EDP 12**), it is also anticipated that existing flight lines from these features will also be maintained, along the tree lined Gullicote Lane.

5.30 If the proposals change or a tree will need to be impacted i.e., as a result of an arboricultural survey, further surveys may be required. The roosting potential of trees can vary over time as a result of storms and natural decay. As such, it is recommended that an update inspection of any trees for roosting bat potential is completed, prior to any felling or pruning works, by a suitably experienced ecologist.

5.31 All trees with greater than low bat roost potential to be impacted will be subject to aerial/climbing surveys to establish whether they support roosting bats. The survey methodology will be conducted in line with best practice guidance[5] for such surveys. Should a roost/roosts be confirmed, then bat exclusion and felling will take place under a Natural England licence and under supervision of a licensed bat worker. Replacement bat roosts will also be provided, in the form of bat boxes attached to retained mature trees or

[5] Collins, J. (ed.) (2016). *Bat Surveys: for Professional Ecologists: Good Practice Guidelines* (3rd edition). The Bat Conservation Trust, London

incorporated into dwellings. The precise mitigation details will be subject to agreement through the licensing process.

5.32 If no roost is confirmed, but potential exists, then trees will be felled under a non-licensed Method Statement by a suitably experienced tree surgeon, using a 'soft felling' technique, following a 'toolbox talk' and site supervision by a bat licensed ecologist, where roost features are sectioned out and lowered to the ground and placed to one side.

Bat Foraging/Commuting

5.33 All of the hedgerow, trees and woodland bounding the Site will be retained and provided with a buffer from development, except for small scale, unavoidable loss associated with the access road along the western boundary. It is considered that this loss will not result in a significant impact upon the bat assemblage, given that limited bat activity was recorded along this boundary feature. Furthermore, proposed planting has been included along this boundary to enhance the retained vegetation and to retain and improve connectivity wherever possible. The magnitude and extent of impacts upon the local bat assemblage is therefore considered to be minor.

5.34 During construction, any illuminated site compounds will be sited away from all retained features of ecological interest described in this document, namely the tree lined farm track corridor, woodland edges, mature trees, and hedgerows. Where required, the times that lights are on should be controlled to avoid lights being illuminated between and including dusk and dawn hours, allowing some dark periods for bats and other wildlife.

5.35 Inherent mitigation incorporated into the Concept Masterplan at this stage includes the retention, buffering and favourable management of the vast majority of the boundary vegetation. Mitigation will focus on strengthening the existing boundary vegetation with additional tree, woodland extension and species-rich grasslands to create strong green linkages/corridors across the Site. Furthermore, the attenuation pond will provide further habitat diversity across the proposed open space, which will provide additional foraging resources for bats.

5.36 A wildlife-sensitive lighting scheme should be adopted to avoid or minimise light spill, thereby creating 'dark zones' where development is located in close proximity to retained/created linear foraging habitats and/or roosts, especially along the tree lined farm track and woodland edge habitats of the Site, which was identified as a key commuting and foraging corridor for bats during the activity surveys. This is particularly pertinent given the presence, albeit in very low numbers, of the rare barbastelle bat which is a particularly 'light sensitive' species. A sensitive lighting strategy should be designed with reference to the best practice guidance for bats and lighting[6], with lighting used where possible which has a warm white output (2700K or less), with directional capacity such as LED and with no UV component. In addition, optics should be used to increase lighting directionality. Additional mitigation should include shielding of lights with accessories such as hoods, covers, louvres and shields where appropriate.

[6] Bats and Artificial Lighting in the UK (08/2018). *Bats and the Built Environment Series*. The Bat Conservation Trust, London

5.37 It is recommended that bat roosting opportunities are increased as a result of the development, through the installation of a range of good quality bat boxes. This can be also achieved through the incorporation of features such as access tiles, gaps under fascia boards, or bat bricks into selected new dwellings situated in closest proximity to suitable foraging habitats, and through the erection of a variety of artificial bat roost boxes on suitable trees within the Site. It is recommended that the quantum, design and location of integrated bat roosting features is designed with reference to CDC's *Biodiversity in the Built Environment, Good Practice 1, Preservation of Existing Sites and Provision of Artificial Nesting Sites* (September 2019).

5.38 These mitigation measures would increase the roosting and foraging resources within the Site for bats. With these measures in place, EDP considers that there will be a net gain in roosting and foraging opportunities for bats within the Site as a result of the proposed development.

Badgers

5.39 Badgers and their setts are legally protected from intentional cruelty and disturbance by *The Protection of Badgers Act* 1992. The protection afforded to badgers is primarily due to animal welfare issues and not due to concerns over their nature conservation status.

[redacted]

5.42 Should any active badger setts be identified within 30m of development activities, suitable mitigation measures should be employed, which may include a Natural England development license if impacts to the sett are predicted and unable to be avoided.

5.43 It is not considered that the loss of arable habitat, resulting from the Proposed Development, will significantly impact the local badger population. Furthermore, the Site has been designed to create large areas of open grassland and maintain movement corridors around the hedgerow and woodland boundaries. The creation and enhancement of habitats within the Site will also compensate for foraging habitat losses and maintain movement corridors.

5.44 During construction, any excavations will be sealed flush at ground level or formed with gently sloping sides, to help any trapped badger (or other animals) to escape. Alternatively, excavations must be visually checked in the morning by the Construction Contractor prior to being filled in, to ensure badger (or other animals) are absent. Should any badger or

other protected species be present/suspected present, then work must cease at that location immediately (where safe to do so) and a suitably experienced ecologist contacted immediately for advice on how to proceed.

5.45 In addition, the lighting recommendations above in relation to foraging and commuting bats will also benefit other nocturnal species such as badgers. It is recommended that any proposed lighting should be designed to avoid or minimise light spill onto known badger setts.

5.46 With these measures in place, EDP considers that the effect on badger will be neutral and will ensure legislative compliance.

Other Species

Reptile and Amphibians

Status

5.47 All species of widespread reptile (including common lizard (*Zootoca vivipara*), slow-worm (*Anguis fragilis*) and grass snake (*Natrix helvetica*)), receive at least limited protection from harm under the *Wildlife and Countryside Act* 1981 (as amended).

5.48 Great crested newt is a European Protected Species (EPS) listed on Schedule 2 of the *Conservation Regulations* (Annex IV (a) to the *Habitats Directive*) (as amended). This affords great crested newts and their breeding ponds strict protection under the *Conservation of Habitats and Species Regulations* 2017 (as amended). Additional protection for great crested newt is also afforded under the *Wildlife and Countryside Act* 1981.

5.49 Great crested newts and reptiles are considered to be absent from the Site due to the absence of suitable ponds within the local landscape and the limited extent of suitable habitats within the Site. However, where present, precautionary methods of work should be adopted during clearance of suitable on-site habitats to ensure no incidental harm to animals during construction. Suitable habitats for these species which are likely to be lost from the Site include the hedgerow and narrow grassland margins along the peripheries of the arable fields. If great crested newt or reptiles are identified during this process, all works will cease and appropriate licences or permissions will be obtained before works continue.

5.50 A tool-box talk will be given to all relevant onsite personnel which will include identification of protected species including reptiles and great crested newts.

5.51 Given the potential presence of reptiles, amphibians and other wildlife within suitable boundary habitats (e.g. field margins, hedgerows and woodland edge), where these require removal, it is recommended as a precaution that this clearance should be preceded by phased habitat clearance and destructive searches by hand of any log/rubble piles or any

other suitable refugia. This would entail a cutting in two phases, once to 150mm and once to ground level towards retained habitats, in order to encourage reptiles and other wildlife to relocate into these. Any dismantling of refugia should only be completed when reptiles and amphibians are active (April to September) by a suitably experienced ecologist. With these measures in place, EDP considers that there would be no construction-stage effects on reptiles.

5.52 Inherent mitigation incorporated into the Concept Masterplan at this stage includes the areas of open space, with the creation and management of wildflower meadow grassland and woodland. As enhancement, hibernacula and refugia features should be provided within the areas of suitable habitat. In addition, the proposed attenuation pond should be designed and managed for its biodiversity value. With these measures in place, EDP considers that there would be a positive increase in valuable habitat for reptiles or amphibians.

Hedgehog

5.53 Hedgehogs are listed on schedule 6 of the *Wildlife and Countryside Act* (1981), which makes it illegal to kill or capture wild hedgehogs. They are also listed under the *Wild Mammals Protection Act* (1996), which prohibits cruel treatment of hedgehogs. Under the NERC *Act*, hedgehogs are also listed as a species of 'principal importance'.

5.54 Hedgehog are considered likely to be present in the local landscape, especially within the woodland and hedgerows. Those methods of clearance outlined for reptiles and amphibians will provide protection against accidental harm during site clearance works.

5.55 To enhance the Site for this species, log/brash piles and compost heaps will be installed within the woodland and other areas of open space to provide additional opportunities for foraging and refuge. These will provide further enhancement of the habitat for common reptile species, amphibians, mammals and other wildlife potentially present within the wider landscape.

5.56 Post development, it is proposed that hedgehog highways will be created within the development to allow movement between gardens and access the wider landscape. These can be created by providing a small hole at the bottom of fences, which is approximately 130mm in dimeter.

Brown Hare

5.57 The brown hare is not a statutory protected species, but it is a Priority Species due to recent declines. There Site is considered suitable to support hares. Measures to avoid harm to ground nesting birds in the arable field will enable any brown hare (if present) to disperse away from the Site. The habitat creation to the north and east of the development, of wildflower grassland with oak tree parkland, will maintain and potentially enhance suitable foraging and refuge opportunities. In light of these mitigation measures, the development proposals are not anticipated to have an adverse effect on the local hare population.

Section 6
Summary and Conclusions

6.1 This section of the Ecological Appraisal summarises the Ecology Strategy for the proposed development, in terms of inherent and recommended additional mitigation measures, and then provides the overall conclusions of the Appraisal.

Summary of Ecology Strategy

Inherent Mitigation Embedded in the Masterplan

6.2 The following mitigation is embedded within the masterplan:

- Retention, enhancement and buffering of valuable habitats from the built development, namely the hedgerows, trees and woodland bounding the Site;
- Extension of existing woodland;
- Creation of a wildflower meadow and oak parkland habitat in areas of green open space; and
- Creation of an attenuation feature, including a wildlife friendly permanent water design.

Construction Measures

6.3 The construction/pre-construction measures include:

- Briefing of site personnel and supervision of certain construction/enabling works by a suitably experienced ecologist (if required);
- Protection of retained habitats and badger sett within EPZs where construction personnel, vehicles and materials are excluded, including use of tree protection fencing;
- Pre-commencement walkover survey for badgers and update inspection of trees, prior to any removal, for bat potential;
- Sensitive timing and methods of vegetation clearance relating to the removal of arable crop, hedgerows and trees with regards to nesting and ground nesting birds, reptiles and amphibians;
- Sensitive lighting strategy adopted during construction with regards to foraging bats and badger; and

- Adoption of standard pollution prevention guidance.

6.4 It is recommended that these measures are detailed within an ECMS, secured by a suitably worded pre-commencement condition attached to planning consent.

Detailed Design Measures

6.5 It is recommended that the following detailed design measures are incorporated into a future detailed Soft Landscaping Scheme:

- Enhancement and strengthening of the existing hedgerows through gap and tree planting of native species, which will increase diversity;

- Creation of wildflower grassland using a species mix which provides flowers through spring, summer and autumn;

- Enhancement of the Site boundary, especially the woodland edges with new woodland, tree and shrub planting to provide screening, enhance biodiversity value and increase habitat connectivity between the existing woodland blocks;

- Provision of bird boxes on suitable mature trees along the boundaries of the Site and integrated into buildings;

- Provision of bat roosting features through incorporation of suitable features into selected new dwellings, and erection of artificial bat roost boxes on suitable trees within the Site;

- Enhancement and management of green open space habitat to provide opportunities for farmland birds, specifically skylark;

- Provision of natural hibernaculum/log piles associated with retained vegetation, to enhance opportunities for hedgehog, reptiles, amphibians and invertebrates;

- Inclusion of a wildlife pond and SuDS that are designed to accommodate wildlife; and

- A sensitive lighting strategy designed to ensure that light spill is kept to a minimum along the existing farm track, woodland edges and other boundary features.

6.6 It is recommended that these measures are incorporated into the detailed Soft Landscaping Scheme and the Landscape and Ecology Management Plan (LEMP), or equivalent documents, secured by suitably worded pre-commencement conditions attached to the planning consent.

Overall Conclusions

6.7 EDP's desk- and field-based baseline investigations have demonstrated that the habitats and species present within and around the Site do not pose an 'in principle' constraint to the proposed development that is the subject of this Appraisal. There are no statutorily protected nature conservation interests within the Site and none nearby that would be materially affected by the proposals.

6.8 The majority of habitats within the Site are of only limited (Site-level) intrinsic nature conservation value or less, comprising intensively managed agricultural land. Locally valuable habitats are primarily restricted to the field boundaries, including the hedgerow, tree and woodland edges which support, or potentially support, only small populations/-typical assemblages of protected/Priority Species, of Site to Local-level importance, including birds, bats and badgers and to a lesser extent reptiles, amphibians, hedgehogs and hares.

6.9 Accordingly, a proportionate and appropriate response for the avoidance, mitigation and compensation of any predicted impacts and ecological effects is considered in this report in outline and is summarised above. These measures include those already embedded within the Concept Masterplan: measures which should be incorporated at the construction stage; those habitat enhancement and creation measures which should be designed and specified within the detailed Soft Landscaping Scheme; and ongoing management measures to ensure that the design vision is achieved in the long-term.

6.10 The habitats and protected and notable species interest within the likely construction zone do not pose a notable constraint to development, and the scope of the proposed mitigation measures are sufficient to entirely mitigate for the biodiversity impacts resulting from the development, delivering significant gains in biodiversity in line with planning policy and wildlife legislation. This is demonstrated by the BIA calculations which show that the development is capable of achieving significant biodiversity net gains of +10.04 (39.90%) habitat units and +1.10 (10.83%) linear habitat units.

6.11 On this basis, EDP finds that the limited constraints posed by the Site's habitats and protected species interest, coupled with the scale and scope of the proposed mitigation measures, mean the scheme is capable of compliance with relevant planning policy for the conservation of the natural environment at all levels. There is therefore no reason, in ecological terms, why planning permission should be refused. The scheme is commended to Cherwell District Council as an ecologically sensitive response to the challenge of accommodating residential developments within a greenfield site.

This page has been left blank intentionally

Appendix EDP 1
Habitat Descriptions and Site Photographs

A1.1 The majority of the Site comprises intensively managed arable land with very narrow or absent margins, less than 0.5m in width and lined with hard-packed earth footpaths, subject to heavy daily use. Boundaries within the Site are varied, with immature tree lines along the northern edges, scattered scrub and immature trees to the east, and a mature double tree line running through the centre, either side of an old farm track. The southern boundary of the Site ends c.10m from the field edge, however the southern boundary of the field is delineated by a narrow, immature, mixed plantation woodland belt with a limited shrub layer and a sparse ground flora, as a result of over shading and heavy use of the footpaths. The western boundary, adjacent to Warwick Road, is a managed species-poor hedgerow with no trees.

A1.2 The principal habitats within and around the Site are described below, with illustrative photographs provided where appropriate. The following should be read in conjunction with **Plan EDP 1** - Extended Phase 1 Habitat survey, appended to this report.

Arable

A1.3 The vast majority of the Site consists of arable land spread across two field parcels (as in **Image EDP A1.1**), which are actively cultivated through ploughing, sowing of crops and herbicide/fertiliser application.

A1.4 Arable habitats are considered of negligible intrinsic ecological importance and offer limited opportunities for protected species (with the exception of a small number of specialist farmland bird species and brown hare).

Image EDP A1.1: Looking along the southern boundary of the western field, showing arable crop with vegetated field margins absent and an earth footpath

Improved Grassland

A1.5 Field margins comprising improved grassland are present in some of the field parcels, however, where present they are narrow (less than 0.5m in diameter) and lined with a hard packed earth footpath (see **Image EDP A1.2**).

A1.6 Improved grassland is considered to be of low (Site-level) intrinsic ecological importance due to poor species-diversity, structure and habitat complexity. Given the limited cover of improved grassland it is not considered a constraint at this Site.

Image EDP A1.2: Looking south along the western boundary, species-poor hedgerow with narrow field margin and hard packed earth footpath.

Mixed Plantation Woodland

A1.7 A narrow band of immature, mixed plantation woodland runs to the south of the southern Site boundary. Largely consisting of fir trees, blackthorn (*Prunus spinosa*), hawthorn (*Crataegus monogyna*), elder (*Sambucus nigra*), beech (*Fagus sylvatica*), ash (*Fraxinus* excelsior) and willow (*Salix sp.*) (see **Image EDP A1.2**). Ground flora is largely absent towards the western end of the band, with only patches of broad-leaved dock (*Rumex obtusifolius*), cow parsley (*Anthriscus sylvestris*), hogweed (*Heracleum sphondylium*) and blackthorn in the narrow field margin. However, the rest of the band has denser ground coverage, dominated by ivy (*Hedera helix*), hogweed, cow parsley and lords and ladies (*Arum maculatum*).

A1.8 Woodland provides suitable habitat for a range of protected and/or priority species. Although the extent is limited within the Site, the woodland provides ecological connectivity in the landscape and is considered to be of Local-level ecological importance.

Image EDP A1.3: Immature mixed plantation woodland along the southern site boundary.

Hedgerows

A1.9 The Study Area supports nine hedgerows which delineate the majority of the field parcels, some of which incorporate immature or mature tree lines (as illustrated in **Images EDP A1.4** and **EDP A1.5**). Dominant species within the hedgerow network include ash, blackthorn, hawthorn and elder, with other species recorded including field maple (*Acer campestre*), hazel (*Corylus avellana*), pedunculate oak (*Quercus robur*), beech, elm species (*Ulmus* spp.), willow and sycamore (*Acer pseudoplata*).

A1.10 The ground flora of the hedgerows includes the species found in the mixed plantation woodland (see above), in addition to other common and widespread species, including brambles (*Rubus fruticosus*), nettles (*Urtica dioica*), dandelion (*Taraxacum officinale*), burdock (*Arctium sp.*), bluebell (*Hyacinthoides non-scripta*), forget-me-not (*Myosotis arvensis*) and celandine (*Ficaria vera*).

A1.11 A detailed hedgerow assessment was undertaken, as discussed in full in **Appendix EDP 2**. The hedgerow survey confirmed that three of the hedgerows bounding the Site, qualify as 'important' under the Wildlife and Landscape criteria of the *Hedgerow Regulations* (1997), and six of the seven hedgerows are considered species-rich, as they support five or more species along their length.

A1.12 The hedgerows form a well-connected network, both within the Site and the wider landscape, and have potential to support a number of protected and notable species, such

as foraging/commuting bats, breeding birds and common dormouse. Collectively, the hedgerow network throughout the Site is considered of Local-level intrinsic ecological importance.

Image EDP A1.4: Immature tree line on the northern site boundary.

Image EDP A1.5: Double mature tree line along the track cutting north to south through the centre of the site.

Broad-leaved Semi-natural Woodland

A1.13 There is a small parcel of woodland along the boundary in the north-east corner of the Study Area, with a canopy of hawthorn, blackthorn, alder, pedunculate oak and elm. Ground flora is limited to celandine plus lords and ladies, a Schedule 2 ancient woodland indicator species.

A1.14 Although the woodland is off-site habitat, woodland provides suitable habitat for a range of protected and/or priority species, with the woodland edge offering an important habitat feature for commuting bats and other species.

Appendix EDP 2
Hedgerow Survey

Methodology

A2.1 The Extended Phase 1 survey identified a number of hedgerows on the Site that have potential to qualify as ecologically 'Important' under the *Hedgerows Regulations* 1997. The ecological importance of all hedgerows within the Site was subsequently assessed by an experienced EDP ecologist on 09 May 2021.

A2.2 Reference was made to the Wildlife and Landscape criteria provided in Part II of Schedule 1 of the *Hedgerows Regulations* 1997, to determine the ecological importance of the Site's hedgerows. The *Hedgerows Regulations* 1997 serve the purpose of ensuring the retention of important countryside hedgerows; their removal only being approved by the relevant local authority.

A2.3 The aims of the hedgerow assessment were to:

(i) Identify hedgerows that are classified as 'important' under the ecological criteria of the *Hedgerows Regulations* (1997); and

(ii) Identify hedgerows that, although not deemed 'important' under the ecological criteria of the *Hedgerows Regulations* 1997, have ecological value in terms of species diversity, or as potential wildlife corridors.

A2.4 Overall, nine hedgerows qualified for assessment against the *Hedgerow Regulations* 1997 criteria, within the Study Area. Hedgerows qualify for assessment by exceeding 20m in length or by being connected at both ends to another hedgerow of any length. The middle 30m of all hedgerows up to 100m in length were surveyed, whilst two 30m sections were surveyed for hedgerows up to 200m in length, where access was possible. For hedgerows exceeding 200m in length, three 30m sections were surveyed. Hedgerows surveyed were assigned points dependent upon the number of qualifying 'features' as defined by the *Hedgerows Regulations*, with total scores per hedgerow determining their status.

A2.5 Qualifying as an 'important' hedgerow requires the hedgerow assessed to be greater than 30 years of age and contain species listed in Schedule 5 (animals) and 8 (plants) of the *Wildlife and Countryside Act* 1981 (as amended), birds categorised as declining breeders (Category 3) within the 'Red Data Birds in Britain' (Batten, 1990), or any species categorised as 'endangered', 'extinct', 'rare' or 'vulnerable' by any of the British Red Data Books.

A2.6 Hedgerows are also considered important should they satisfy any of the following criteria:

- That the hedgerow is referred to in a record held by a biological records centre as containing protected plants (within ten years) or birds and animals (within five years); or

- That the hedgerow contains one of the following criteria per average 30m section surveyed:

    - Seven Schedule 3 species;

    - Six Schedule 3 species and three listed features (see below);

    - Six Schedule 3 species, including one of the following: black poplar, large-leaved lime, small-leaved lime or wild service-tree;

    - Five Schedule 3 species and four listed features; and

    - Four Schedule 3 species, two listed features and lying adjacent to a bridleway or footpath.

- Listed features to include:

    - A bank or wall which supports the hedgerow along at least half of its length;

    - Gaps which together do not exceed 10% of the length of the hedgerow;

    - At least one standard tree per 50m of hedge;

    - At least three Schedule 2 woodland species within the hedgerow;

    - A ditch along at least one half of the length of the hedgerow;

    - Connections scoring 4 points or more (1 point per connection of the hedgerow with another, 2 points per connection of the hedgerow to a pond or broad-leaved woodland; and

    - A parallel hedge within 15m of the hedgerow.

A2.7 Where a hedgerow did not meet the 'important' hedgerow criteria, it was considered whether this boundary feature had ecological value, in terms of species diversity, or as potential wildlife corridors.

Results

A2.8 The detailed results of the hedgerow survey are provided in **Table EDP A2.1**.

A2.9 In summary, four of the nine hedgerows surveyed qualify as 'Important' under the *Hedgerow Regulations* 1997, namely hedgerows H1, H3, H5, and H7. Hedgerow H7 is not a boundary of the Site.

A2.10 Whilst many of the hedgerows were not considered 'Important,' seven of the nine hedgerows are considered to be species-rich because they support an average of five or more species. Six of these are associated with the Site.

Table EDP A2.1: Hedgerow Survey Results

Hedgerow Number	Ash (*Fraxinus excelsior*)	Beech (*Fagus sylvatica*)	Blackthorn (*Prunus spinosa*)	Elder (*Sambucus nigra*)	Elm (*Ulmus* spp.)	Hawthorn (*Crataegus monogyna*)	Hazel (*Corylus avellana*)	Maple, Field (*Acer campestre*)	Oak, Pedunculate (*Quercus robur*)	Rose sp. (*Rosa* spp.)	Spindle(*Euonymus europaeus*)	Wayfairing (*Viburnum lantana*)	Yew (*Taxus baccata*)	Mean Count of Schedule 3 Species from the 30m Samples (sample size)	Schedule 2 and 3 Woodland Plants	Bank/Wall	Gaps <10%	Standard Trees (min. 1/50m)	Ditch	Connections (4 or >4)	Parallel Hedge	Adjacent footpath, Bridleway, Road Used as Public Path or Byway Open to all Traffic?	Important Hedgerow
H1	✓			✓		✓	✓	✓		✓			✓	5	✓	✓	✓	✓	×	✓	×	×	✓
H2			✓	✓		✓		✓						2	✓	×	✓	×	✓	✓	×	×	×
H3	✓		✓	✓		✓	✓	✓	✓	✓	✓			5	✓	✓	✓	✓	×	✓	✓	✓	✓
H4	✓			✓		✓	✓	✓		✓				4.5	✓	×	✓	×	×	×	×	✓	×
H5	✓					✓		✓	✓	✓				4	✓	✓	✓	✓	×	×	✓	✓	✓
H6	✓			✓	✓	✓	✓							3.5	✓	×	×	✓	×	✓	×	✓	×
H7		✓				✓	✓	✓				✓		4	✓	×	✓	✓	×	✓	×	✓	✓
H9	✓	✓	✓	✓		✓			✓	✓		✓		3	✓	×	×	✓	×	✓	×	✓	×
Offsite Hedgerows																							
H8	✓			✓		✓		✓		✓				3.5	✓	×	×	×	×	×	×	×	×
H9	✓	✓	✓	✓		✓			✓	✓		✓		3	✓	×	×	✓	×	✓	×	✓	×

Appendix EDP 3
Breeding Bird Survey

Methodology

A3.1 To assess the value of the Site for breeding birds and to identify the potential presence of any significant species assemblage or rare/notable species, a breeding bird survey (BBS) was undertaken with reference to standard methodology, entailing a modified Common Bird Census (CBC) 'territory mapping' approach. This generally involves the completion of three visits to the Site, undertaken between April and June, i.e. at the height of the breeding bird season for lowland Britain.

A3.2 Following best practice, three survey visits were timed to start around first light, to coincide with the period of peak activity for birds, most particularly passerine songbird species. Survey visits to the Site were undertaken on 08 April, 05 May and 04 June 2021. The survey visits were undertaken during predominantly suitable weather conditions, i.e. days/periods with strong winds and heavy or persistent rain were avoided.

A3.3 The survey methodology involved walking to within approximately 50m of all parts of the Site and recording any birds listed within the Birds of Conservation Concern report[7] and their activity status, with a particular emphasis placed upon those elements considered to relate to, or be indicative of, breeding. This ensured that the survey identified all birds using the margins of the Site, as well as those in the interior. Following the completion of the survey, the likely breeding status of each bird species identified at the Site was evaluated according to the nature and frequency of the behavioural elements recorded, as set out in **Table EDP A3.1**.

Table EDP A3.1: Summary of Field Evidence used to Determine Breeding Bird Status

Status	European Bird Census Council (EBCC) Criteria for Categorisation of Breeding Status
Confirmed	• Distraction-display or injury feigning; • Used nest or eggshells found (occupied or laid within period of survey); • Recently fledged young (nidicolous species) or downy young (nidifugous species); • Adults entering or leaving nest-site in circumstances indicating occupied nest (including high nest or nest-holes, the contents of which cannot be seen) or adult seen incubating; • Adult carrying faecal sac or food for young; • Nest containing eggs; and • Nest with young seen or heard.

[7] Eaton, M.A., Aebischer, N.J., Brown, A.F., Hearn, R.D., Lock, L., Musgrove, A.J., Noble, D.G., Stroud, D.A. and Gregory, R.D. (2015). *Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man*. British Birds, Vol. 108, 708-746.

Status	European Bird Census Council (EBCC) Criteria for Categorisation of Breeding Status
Probable	• Pair observed in suitable nesting habitat in breeding season; • Permanent territory presumed through registration of territorial behaviour (song, etc.) on at least two different days a week, or further apart at the same place; • Courtship and display; • Visiting a probable nest site; • Agitated behaviour or anxiety calls from adults; • Brood patch on adult examined in the hand; and • Nest building or excavating nest-hole.
Possible	• Species observed in breeding season in possible nesting habitat; and • Singing male(s) present (or breeding calls heard) in breeding season.
Non-breeder	• Feeding birds only; • Birds flying over only; and • Lack of suitable breeding habitat.

A3.4 To provide further detail with regard to the total abundance and diversity of the overall assemblage of bird species present within the Site, a list of all other bird species recorded (i.e. those that are not considered to be of conservation concern) was made.

A3.5 The breeding bird survey visits were carried out by an experienced ornithologist, at an appropriate time of year for the locality, and in suitable weather conditions. It is therefore considered that the results provide a representative overview of the breeding bird interest at the Site.

A3.6 An assessment of the individual bird species recorded at the Site, as well as the overall assemblage, was subsequently made with reference to the national conservation status of the different breeding species recorded, according to the Birds of Conservation Concern report.

A3.7 The location of bird territories and colonies (i.e. house sparrow) determined over the three breeding bird survey visits are illustrated within **Plans EDP 2** to **EDP 4** inclusive. It is important to note that these locations represent areas where the species is likely to breed, rather than specific nest sites. Additionally, if a bird species was observed in the same location during more than one survey visit, and the surveyor is confident that the sightings relate to the same individual, only a single territory is considered to be represented. As such, only one registration for that species will be shown in that particular location.

Results

A3.8 A total of 31 bird species were recorded across all three breeding bird surveys, including four species on Red List and seven on the Amber List of Birds of Conservation Concern, as summarised below in **Table EDP A3.2**. Since the survey was undertaken, the BoCC[8] has been updated; as such, common whitethroat, sparrowhawk, woodpigeon and wren have all been upgraded to Amber list species and Greenfinch to Red List, therefore, they have been included in the table below.

A3.9 Of these species, it considered likely that small numbers of dunnock, yellowhammer, wren, skylark and whitethroat breed on-site in association with the boundary hedgerows. Starlings, while not breeding on-site, are potentially breeding in the residential area to the south. Other species of conservation concern considered likely to be breeding within or adjacent to the Site include small numbers of linnet, meadow pipit, bullfinch, greenfinch and song thrush.

A3.10 Skylark likely nest in the agricultural fields, which make up much of the Site and adjacent landscape. Based on the results of the three surveys, we consider it likely that the arable land within the Site supports approximately seven pairs of breeding skylark.

Table EDP A3.2: Red and Amber List Bird Species Recorded Within the Site During the Survey and Likely Breeding Status

Species	Breeding Status	Recordings During the Survey	Conservation Status[9]
Dunnock (*Prunella modularis*)	Probable breeder	11 males were recorded singing along the Site boundary hedgerows, mainly in the north of the site.	Amber List Section 41
Yellowhammer (*Emberiza citrinella*)	Probable breeder	Five males recorded singing within eastern and western boundary hedgerows. One individual recorded in singing flight. Probable breeder.	Red List Section 41
Skylark (*Alauda arvensis*)	Probable breeder	Over the course of the three surveys, 23 males were recorded singing within the Site and on adjacent arable land. In addition, a single individual singing and two displaying aggressive behaviour were also recorded.	Red List Section 41
Wren (*Troglodytes troglodytes*)	Probable breeder	Over the three surveys, 21 individuals were observed singing within the Site and on adjacent arable land, mainly associated with the boundary features and southern boundary.	Amber List (Green BoCC4[10])

8 Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. 2021. *The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain*. British Birds 114: 723-747

9 British Birds 108, 708–74; Species of Principle Importance in England, *NERC Act* (2006); and Schedule 1 of *Wildlife and Countryside Act* 1981 (as amended)

10 Eaton, M.A., Aebischer, N.J., Brown, A.F., Hearn, R.D., Lock, L.., Musgrove, A.J., Noble, D.G., Stroud, D.A. and Gregory, R.D. (2015). *Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. British Birds*, Vol. 108, 708-746.

Species	Breeding Status	Recordings During the Survey	Conservation Status[9]
Whitethroat (*Sylvia communis)*	Probable breeder	Observed on two of the three surveys, a total of seven individuals were recorded. One was recorded calling.	Amber List (Green BoCC4)
Linnet (*Linaria cannabina*)	Possible breeder	Seven birds were recorded within the Site, along both the eastern and western site boundaries and in flight.	Red List Section 41
Meadow Pippit (*Anthus pratensis*)	Possible breeder	Only recorded on the last survey; two birds recorded, one of which was calling.	Amber List
Bullfinch (*Pyrrhula pyrrhula*)	Possible breeder	One male recorded on the second survey only, along hedgerow on eastern side of the Site between field parcels.	Amber List Section 41
Song Thrush (*Turdus philomelos*)	Possible breeder	A single male song thrush recorded singing in the woodland on the north-east corner of the Site.	Amber List Section 41 (Red List BoCC4)
Woodpigeon (*Columba palumbus*)	Possible Breeder	Five individuals were recorded within the Site.	Amber List (Green BoCC4)
Greenfinch (*Chloris chloris)*	Possible breeder	Recorded on two of the three surveys, associated with the woodland edge on the north and south boundary. No breeding behaviours were observed.	Red List (Green BoCC4)
Starling (*Sturnus vulgaris*)	Non-breeder	One individual recorded in May, associated with the band of mixed plantation woodland along the southern Site boundary. This species is not considered to be breeding within the site, but potentially breeds in the residential area to the south of the Site.	Red List Section 41
Sparrowhawk (*Accipiter nisus*)	Non-breeder	An induvial male was recorded flying over the centre of the Site on the third survey.	Amber List (Green BoCC4)

A3.11 Although these species are considered to be in decline, they remain common and widespread at both a National and Local-level and the numbers present are not considered to be significant in a local context. No rare species were recorded.

A3.12 A list of the remaining 14 Green List species that are recorded is provided in **Table EDP A3.3**.

Table EDP A3.3: Other Bird Species Recorded Within the Site during the Survey

Species	
Blackbird	*(Turdus merula)*
Blackcap	*(Sylvia atricapilla)*
Blue Tit	*(Cyanistes caeruleus)*
Canada Goose	*(Branta canadensis)*

Species	
Chaffinch	*(Fringilla coelebs)*
Chiffchaff	*(Phylloscopus collybita)*
Collared Dove	*(Streptopelia decaocto)*
Goldfinch	*(Carduelis carduelis)*
Great Tit	*(Parus major)*
Green Woodpecker	*(Picus viridis)*
Grey Heron	*(Ardea cinerea)*
Jackdaw	*(Corvus monedula)*
Long-tailed Tit	*(Aegithalos caudatus)*
Magpie	*(Pica pica)*
Pheasant	*(Phasianus colchicus)*
Pied Wagtail	*(Motacilla alba)*
Robin	*(Erithacus rubecula)*
Swallow	*(Hirundo rustica)*

A3.13 The species diversity and abundance present on the Site is considered to be fairly typical of an urban edge farmland site in southern England, given the limited extent and range in habitats present on the Site. The majority of species recorded on-site were associated with the arable field and boundary hedgerows. Despite this limitation, the Site still supports an assemblage of declining, albeit common and widespread, farmland and urban species. In addition to this, a small breeding population of skylark was recorded in association with the arable land within the site. Primarily for this reason, the assemblage of bird species present at this Site is considered to be of value at a Local-level context.

This page has been left blank intentionally

Appendix EDP 4
Bat Survey

Methodology

A4.1 During the Extended Phase 1 survey, areas of woodland, tree lines, hedgerows and tall ruderal were identified as having the potential to support foraging and commuting bats. In addition, a number of trees were considered to have the potential to support roosting bats.

A4.2 The following surveys for bats were therefore undertaken, with reference to national best practice guidelines [11]:

1. Bat Roosting:

   (a) Ground-level preliminary roost assessment of trees for bat roosting potential.

2. Bat foraging/commuting activity, comprising:

   (a) Manual transect surveys; and

   (b) Automated detector surveys.

Preliminary Roost Assessment – Trees

A4.3 A visual assessment of all suitable trees within the Site for the presence of, or potential to support roosting bats, was undertaken by a suitably experienced ecologist in accordance with BCT guidelines. The visual assessment was undertaken on 18 May 2021 to identify any changes in bat roosting potential. The trees were searched as thoroughly as possible from ground level, with all elevations covered where accessibility allowed.

A4.4 Suitable features for roosting bats include:

- Lost/peeling/fissured bark;
- Natural holes e.g. rot holes and holes from fallen limbs;
- Woodpecker holes;
- Cracks/splits or hollow tree trunks/limbs; and
- Thick-stemmed ivy.

[11] Collins, J. (ed.) (2016). *Bat Surveys: for Professional Ecologists: Good Practice Guidelines (3rd edition).* The Bat Conservation Trust, London

A4.5 Signs of roosting bats include:

- Bat/s roosting *in situ*;
- Bat droppings within or beneath a feature (hole or split);
- Staining around or beneath a feature;
- Oily marks (staining) around roost access points;
- Audible squeaking from the roost;
- Large/regularly used roosts or regularly used sites may produce an odour; and
- Flies around the roost, attracted by the smell of guano.

A4.6 The trees were then assessed as having either Negligible, Low, Moderate or High potential to support roosting bats, or as being a Confirmed Roost.

Limitations

A4.7 Visual assessments for roosting bats can be undertaken at any time of year; this assessment was therefore not limited by seasonal or climatic factors.

A4.8 It should be noted that this type of assessment is based on features visible from the ground level and is not considered to be a definitive bat roosting survey. Should the proposals require that any trees of sufficient potential to support roosting bats be subject to tree felling/surgery, additional survey work may be required to establish if any bats are roosting within the trees at the time of the proposed works. If trees are found to support bat roosts during pre-commencement investigations, such works would be subject to a Natural England European Protected Species licence to commence lawfully, with mitigation provided through the inclusion of additional tree-mounted bat boxes and in the longer term with new tree planting.

Investigations of Bat Foraging/Commuting Activity

Manual Transect Surveys

A4.9 Manual transect surveys were undertaken across the Site, to identify areas of bat foraging activity and commuting routes used by bats. With reference to best practice guidelines[12], surveys were completed within the optimal survey months of May to September inclusive.

[12] Collins, J. (ed.) (2016). *Bat Surveys: for Professional Ecologists: Good Practice Guidelines (3rd edition).* The Bat Conservation Trust, London

A4.10 Full details including the survey type, date, timing, and weather conditions during each of the transect surveys undertaken during 2020, are given in **Table EDP A4.1**. Weather conditions on the majority of visits were optimal for bat surveys, being relatively warm with light to medium winds and no rain.

Table EDP A4.1: Date, Timing and Weather Conditions of Bat Activity Transect Surveys

Survey Date	Dusk/ Dawn	Survey Time	Sunrise/ Sunset Time	Weather Conditions			
				Temp (°C)	Cloud (%)	Rain	Wind (Beaufort Scale)
18.05.2021	Dusk	20:57 - 22:57	22:57	11 - 12	50 - 80	None	1 - 2
07.07.2021	Dusk	21:27 - 23:27	21:27	16 - 17	100	None	1
08.07.2021	Dawn	02:54 - 04:54	04:54	15 - 16	100	None	0
16.09.2021	Dusk	18:15 - 21:20	18:17	14 - 18	8 - 14	None	1 - 2

A4.11 Manual transect surveys were completed by experienced bat surveyors across one transect survey route. The transect route was designed to cover all trees, hedgerows and other potential foraging or commuting habitat within the Site, as illustrated on **Plan EDP 6**. The transect route was walked at a slow and steady pace, with 'pacing points' used as a guide for the surveyors. All bats were recorded, and their behaviour marked on survey maps in order to characterise the value of the Site and its component habitats to foraging and commuting bats.

A4.12 Activity surveys were conducted using Elekon Batlogger M detectors. Observations of the time, location, and activity of all bats seen or heard were noted. Bats were identified on the basis of their characteristic echolocation calls, which were recorded and analysed using computer sonogram analysis software Bat Explorer, to confirm species identification. Species of *Myotis* bat and long-eared bat (*Plecotus* sp.) are difficult to tell apart solely from their echolocation calls, and are therefore grouped as such.

Automated Detector Surveys

A4.13 To supplement the transect survey data, bat activity within the Site was also sampled using automated bat detectors which automatically trigger and record bat echolocation calls. These surveys were conducted during the months of May, July and September 2021. The automated detectors provided a total of three recording periods lasting for five nights each.

A4.14 Anabat Express bat detectors were deployed in four locations within the Site during each of the sampling periods, as shown on **Plan EDP 6**. The detectors were fixed in secure locations, with an external microphone attached 1-2m above ground and directed away from dense vegetation to maximise detection sensitivity.

Limitations

A4.15 The identification of calls and species using Analook software is dependent upon the quality of the recording made, which can be influenced by the following factors, which may limit levels of activity and species recorded:

- Weather conditions – rainfall and wind;
- Distance of bat from Anabat;
- Presence of obstructions through which the noise must pass i.e. trees; and
- Proximity of other noise sources, such as roads.

Results

Preliminary Roost Assessment – Trees

A4.16 The preliminary ground level roost assessment of trees identified seven trees with potential to support roosting bats, including one with high potential (T9), three with medium potential (T3, T5 and T6) and five with low bat roosting potential (T1, T2, T4, T7, T8) as detailed in **Table EDP A4.2**. All of the trees referred to are illustrated on **Plan EDP 5**.

Table EDP A4.2: Bat Tree Roost Assessment Results

Tree Reference	Tree Species	Bat Roost Potential	Bat Roost Features
Trees within the Site			
T1	Hawthorn	Low	Dense ivy coverage.
T2	Ash	Low	Dense ivy coverage.
T3	Ash	Moderate	Occluding wound at 4m with a possible void behind.
T4	Oak	Low	Dense ivy and peeling bark.
T5	Field Maple	Moderate	Hollow trunk with multiple knot holes, hollow opening at base of trunk.
T6	Oak	Moderate	Splayed cut wound at 3m on west side of tree facing upwards.
T7	Hawthorn	Low	Dense ivy coverage.
T8	Dead	Low	Dense ivy coverage of pole.
Trees within the Study Area			
T9	Ash	High	Old hollow trunk.

Investigations of Bat Foraging/Commuting Activity

Manual Transect Surveys

A4.17 The distribution of bat activity recorded around the Site is illustrated on **Plans EDP 7** to **10** inclusive. Raw data gathered is available upon request.

A4.18 Up to six species of bat were identified foraging and/or commuting within the Site during the course of the activity surveys, with common pipistrelles accounting for the majority of registrations, and with occasional *myotis* sp., soprano pipistrelle and noctule. Brown long eared and barbastelle bats were identified on the May manual transect survey, in the south-east of the Site.

A4.19 Little pattern can be discerned from the distribution of bat registrations within and around the Site and Study Area during the transect surveys, due to significant variations between the surveys. However, the boundary habitats are all likely to provide some suitable foraging habitat and the absence of any clear foraging preference is likely to suggest that no single habitat is of any greater value for foraging or commuting.

Automated Detector Surveys

A4.20 The results of the automated detector surveys are summarised below in **Tables EDP A4.3**.

Table EDP A4.4: Automated Detector Survey Summary for 2021

Survey Month	Species Recorded	No. Passes Recorded	% of Total
May	Common pipistrelle	452	73
	Noctule	64	10
	Soprano pipistrelle	55	9
	Myotis sp.	36	6
	Long Eared	4	1
	Barbastelle	4	1
	Total	**615**	
July	Common pipistrelle	4437	61
	Soprano pipistrelle	2538	35
	Noctule	142	2
	Myotis sp.	117	2
	Long Eared	4	<1
	Leisler	5	<1
	Nathusius pipistrelle	1	<1
	Serotine	1	<1
	Total	**7245**	
September	Common pipistrelle	1215	48
	Soprano pipistrelle	525	21
	Myotis sp.	533	21
	Noctule	119	5
	Long Eared	68	3
	Barbastelle	48	2
	Leisler	9	<1
	Nathusius pipistrelle	5	<1
	Serotine	1	<1
	Total	**2523**	

A4.21 Overall, the majority of registrations belonged to common and widespread bat species. Combined, common pipistrelles (59%), soprano pipistrelles (30%), *myotis* sp. (7%) and noctules (3%) made 99% of overall registrations recorded. With the remaining species, long eared, serotine, Leisler's, Nathusius's pipistrelle and Barbastelle making up just 1% of the total recorded registrations combined.

A4.22 Activity was significantly higher in July than either May or September, though with the vast majority of the additional activity as a result of common and soprano pipistrelle registrations. The number of registrations of other bat species in July was largely in line with the May and September results.

A4.23 Of consideration is the presence of Barbastelle in the local area. Barbastelle were absent in July and with a very low number of registrations in May, with only four passes across all four detectors for the recording period. Registrations in September reached 48 across the four detectors, though the total number still only accounted for 0.5% of the total bat registrations. Given their preference for woodland roosts it is likely that barbastelle roosts are absent from the Site, though the boundary habitats will provide some suitable foraging habitat, albeit likely of only low to moderate value for this species.

A4.24 The other species of consideration is Leisler's, as they are listed as infrequent, widespread, and vulnerable in the UK. While only 14 registrations were recorded for Leisler's in total, this would still suggest they are present on-site in low numbers.

Evaluation of Overall Assemblage

A4.25 Overall, the abundance and diversity of bat species on-site is relatively typical for an urban edge farmland site, in Oxfordshire. Much of the commuting and foraging activity is attributed to common and widespread species, such as common pipistrelles and soprano pipistrelles, with low numbers of less common and widespread species.

A4.26 The woodland and hedgerow boundaries provide suitable corridors for bat commuting and dispersal within the local landscape, as well as supporting several trees with roosting potential. The majority of the Site supports habitats of negligible value for foraging bats, dominated by land under intensive agricultural management, such that the value of the field parcels for foraging is significantly reduced. However, the woodland and hedgerow boundary habitats do provide some suitable foraging. The on-site habitat, while suitable for bats, is considered largely typical of the surrounding landscape and based upon its quality and extent, capable of supporting a moderate number of bats.

A4.27 Based on the findings summarised above, the bat population present within the Site is considered to be of Local-level ecological importance.

Appendix EDP 5
Badger Survey

Methodology

[redacted]

A5.3 During the surveys, any signs of badger were recorded and particular attention was paid to habitats of suitable topography or supporting suitable vegetation for sett building, as well as those habitats favoured by badgers, including hedgerows, dense scrub, woodlands, ditches and banks. The following signs of badger activity were searched for in order to determine whether they were currently in active use:

- Fresh spoil outside entrances;
- Old bedding material (typically dried grass) outside entrances;
- Holes being cleared of leaf litter;
- Fresh latrines close to entrances;
- Badger guard hairs; and
- Fresh tracks leading to/from the holes.

A5.4 Where holes of a size and shape consistent with badgers were identified, any badger setts recorded during the survey were classified by type and whether they were in current use, according to relevant best practice advice[13] [14] available at the time of the survey.

[13] Natural England (2011) *Badgers and Development: A Guide to Best Practice and Licensing. Interim Guidance Document Revised 12/11*.
[14] Natural England (undated) *Protection of Badgers Act* 1992 (as amended) Guidance on 'Current Use' in the definition of a Badger Sett.

A5.5 All holes of an identified sett were closely examined and the number of entrances and evidence of its usage were recorded. Where possible, setts identified during the survey were categorised using the nationally recognised sett classification as described below:

- Main sett: These are large setts comprising a number of well-used, active holes with conspicuous spoil heaps. They are well established with worn paths to and from the sett and between entrances. Main setts are breeding setts and are normally in continuous use throughout the year, with only one main sett per social group of badgers;

- Annex sett: Where present, they occur in close association with the main sett (normally <150m away) and are linked to them by clear, well-worn paths. Annex setts arise for the purposes of rearing cubs, should a second litter be born, and have several entrances (though not all in use at the same time);

- Subsidiary sett: These setts usually consist of three to five entrances which are not in continuous use. They are usually >50m away and may not have well-used paths connecting them to other setts; and

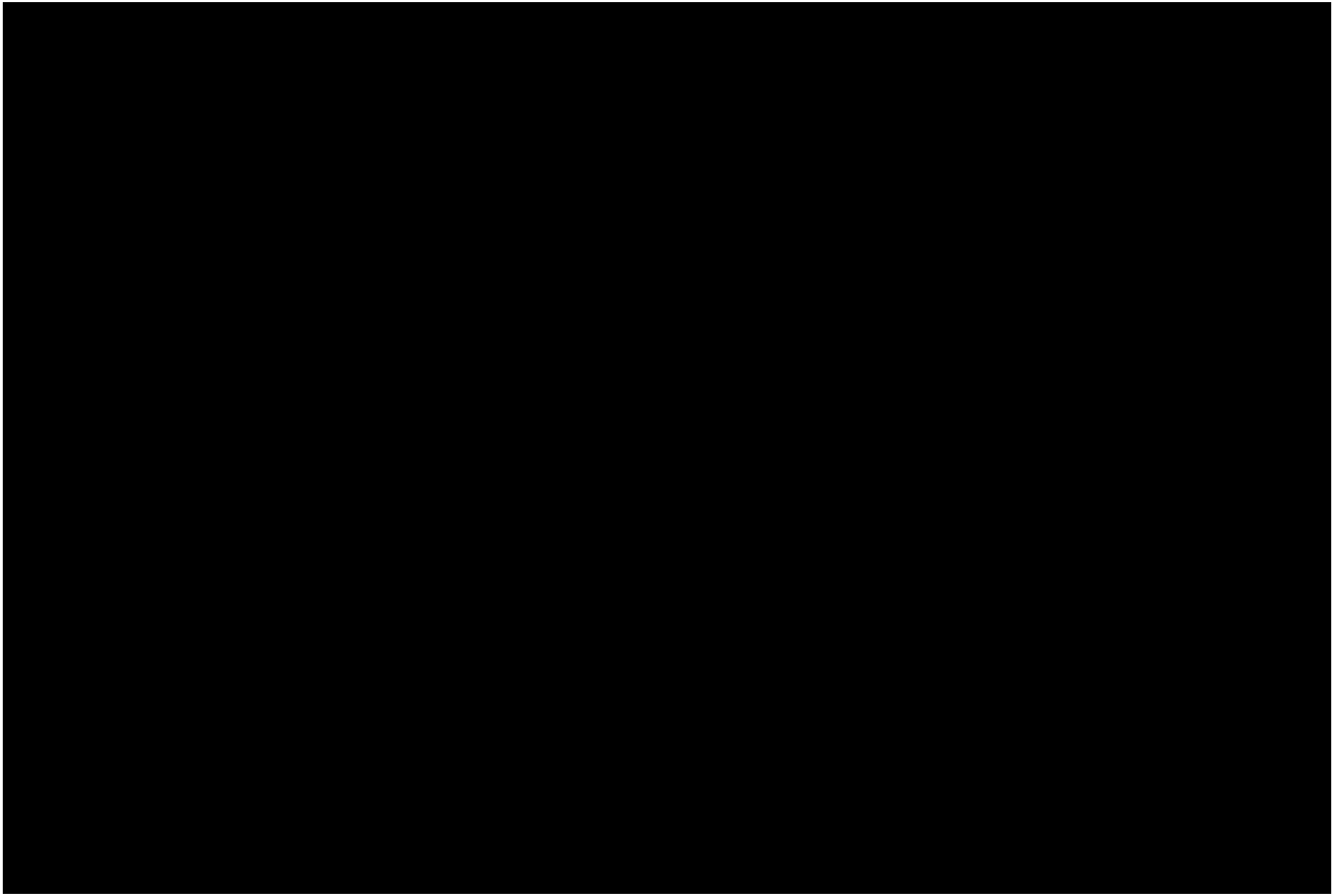
- Outlier sett: These typically comprise one to three holes with small spoil heaps indicating that they are not very extensive underground. They are used sporadically and are thought to serve multiple functions, including allowing efficient and safe travel to important parts of their home range.

Limitations

A5.6 Badgers are a mobile species that frequently establish new setts and suitable foraging and sett building opportunities exist across the Site. It is possible that the Site could support additional badger setts in the future. This survey, therefore, only provides a snapshot of the conditions present at the Site at the time of survey.

Results

[redacted]



Appendix EDP 6
Biodiversity Impact Assessment

This page has been left blank intentionally

Land East of Warwick Road, Banbury

Headline Results

Return to results menu

On-site baseline	*Habitat units*	25.16
	Hedgerow units	10.16
	River units	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	35.20
	Hedgerow units	11.26
	River units	0.00
On-site net % change (Including habitat retention, creation & enhancement)	*Habitat units*	39.90%
	Hedgerow units	10.83%
	River units	0.00%
Off-site baseline	*Habitat units*	0.00
	Hedgerow units	0.00
	River units	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	0.00
	Hedgerow units	0.00
	River units	0.00
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	10.04
	Hedgerow units	1.10
	River units	0.00
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	39.90%
	Hedgerow units	10.83%
	River units	0.00%
Trading rules Satisfied?		Yes ✓

	H i t d			i i i		C d i		t gi ii			S g s des hab a l s s	b e e
	B dH i t	H b t yp	e r)	i i	S	C ti	S	t g i fi	n c ce	u p r		l b t t
	d										d ≥	
	d	d d d				d					d d ≥	

t ti t g i i y l						a ee r n os s	C t	
n d	a e	a e	h c d	l t t	U t l t		A t	R i t
							d d d d d	

l l (b t G)	2 6

Land East of Warwick Road, Banbury

A-2 Site Habitat Creation

Condense / Show Columns | Condense / Show Rows

Main Menu | Instructions

Post development/ post intervention habitats											
Broad Habitat	Proposed habitat	Area (hectares)	Distinctiveness	Condition	Strategic significance	Temporal multiplier		Difficulty multiplier - re-creation	Habitat units delivered	Comments	
			Distinctiveness	Condition	Strategic significance	Standard or adjusted time to target condition	Final time to target condition/years	Final difficulty of creation		Assessor comments	Reviewer comments
Urban	Developed land; sealed surface	3.5	V.Low	N/A - Other	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	0	Medium	0.00	70% Housing/Hardstanding	
Urban	Vegetated garden	1.5	Low	Condition Assessment N/A	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	1	Low	2.90	30% Garden	
Grassland	Modified grassland	1	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	4	Low	3.47	POS some areas of moderate condition	
Grassland	Other neutral grassland	2.16	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	5	Low	14.46	Wildflower Grassland, planted with oak trees (Areas of higher and lower condtion	
Woodland and forest	Other woodland; broadleaved	1.26	Medium	Poor	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	5	Low	4.22	Proposed woodland planting	
Urban	Sustainable urban drainage feature	0.2	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	3	Medium	0.48	Attentuation basin, managed for biodiveristy value	
Heathland and shrub	Mixed scrub	0.35	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	5	Low	2.34		
Urban	Urban Tree	0.8139	Medium	Poor	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	10	Low	2.28	Assumed 20 small and 20 medium trees of poor cond planted	
Grassland	Modified grassland	2.09	Low	Poor	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	1	Low	4.03	POS poor condtion assumed across kickabout, playarea and mown footpaths	
	Total habitat area	12.87							34.18		
	Site Area (Excluding area of Urban trees and Green walls)	12.06									

B-1 Site Hedge Baseline

Condense / Show Columns | Condense / Show Rows | Main Menu | Instructions

Baseline ref	UK Habitats - existing habitats: Hedge number	Hedgerow type	Length (km)	Habitat distinctiveness: Distinctiveness	Habitat condition: Condition	Strategic significance	Suggested action to address habitat losses	Ecological baseline: Total hedgerow units	Retention category biodiversity value: Length retained	Length enhanced	Units retained	Units enhanced	Length lost	Units lost	Comments: Assessor comments	Reviewer comments
1		Native Species Rich Hedgerow with trees	0.55	High	Moderate	Area/compensation not in local strategy/ no local strategy	Like for like or better	6.60	0.55		6.60	0.00	0.00	0.00	H1, H3, H5 Moderate Cond assumed	
2		Native Species Rich Hedgerow	0.12	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Like for like or better	0.96	0.12		0.96	0.00	0.00	0.00	H4 Moderate Cond assumed	
3		Native Hedgerow	0.28	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	1.12	0.18		0.72	0.00	0.10	0.40	H2 Moderate Cond assumed	
4																
5		Native Species Rich Hedgerow	0.37	Medium	Poor	Area/compensation not in local strategy/ no local strategy	Like for like or better	1.48	0.37		1.48	0.00	0.00	0.00	H6 and H9 Poor Cond assumed (defunct)	
6																
7																
8																
9																
10																
			1.32					10.16	1.22	0.00	9.76	0.00	0.10	0.40		

B-2 Site Hedge Creation

Condense / Show Columns | Condense / Show Rows

Main Menu | Instructions

		Proposed habitats		Habitat distinctiveness	Habitat condition	Strategic significance	Temporal multiplier		Difficulty risk multipliers	Hedge units delivered	Comments	
Baseline ref	New hedge number	Habitat type	Length (km)	Distinctiveness	Condition	Strategic significance	Standard or adjusted time to target condition	Final time to target condition/years	Final difficulty of creation		Assessor comments	Reviewer comments
1		Native Species Rich Hedgerow with trees	0.17	High	Good	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	20	Low	1.50	Green Corridor	
2												
3												
4												
5												
6												
			0.17							1.50		

Plans

Plan EDP 1	Extended Phase 1 Habitat Survey (edp3253_d009a 21 July 2022 MH/ND)
Plan EDP 2	April Breeding Bird Survey Results (edp3253_d014a 21 July 2022 GY/CL)
Plan EDP 3	May Breeding Bird Survey Results (edp3253_d015a 21 July 2022 GY/CL)
Plan EDP 4	June Breeding Bird Survey Results (edp3253_d016a 21 July 2022 GY/CL)
Plan EDP 5	Bat Tree Roost Assessment (edp3253_d012a 21 July 2022 GY/ND)
Plan EDP 6	Bat Activity Transect Routes (edp3253_d011a 21 July 2022 GY/ND)
Plan EDP 7	Bat Activity Transect Survey May (edp3253_d019a 21 July 2022 GY/ND)
Plan EDP 8	Bat Activity Transect Survey July Dusk (edp3253_d020a 21 July 2022 GY/ND)
Plan EDP 9	Bat Activity Transect Survey July Dawn (edp3253_d022a 21 July 2022 GY/ND)
Plan EDP 10	Bat Activity Transect Survey September (edp3253_d021a 21 July 2022 GY/ND)
[redacted]	
Plan EDP 12	Concept Masterplan (edp3253_d038d 06 October 2022 NBo/RAl)
Plan EDP 13	Post Development Habitats (edp3253_d043b 06 October 2022 GYo/NDo)

This page has been left blank intentionally

Site Boundary

Study Area

Broadleaved Semi-natural Woodland

Plantation Mixed Woodland

Tall Ruderal

A Arable

Intact Species-rich Hedgerow and Trees

Intact Species-poor Hedgerow and Trees

Intact Species-rich Hedgerow

Intact Species-poor Hedgerow

Defunct Species-rich Hedgerow and Trees

Defunct Species-rich Hedgerow

client

Vistry Homes Ltd

project title

Land east of Warwick Road, Banbury

drawing title

Extended Phase 1 Habitat Survey

date	**21 JULY 2022**	drawn by	**MH**
drawing number	**edp3253_d009a**	checked	**ND**
scale	**1:3,500 @ A3**	QA	**JTF**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

Site Boundary

Study Area

Red Listed Bird

Amber Listed Bird

Species

D.	Dunnock
LI	Linnet
MP	Meadow Pipit
S.	Skylark
ST	Song Thrush
Y.	Yellowhammer

client

Vistry Homes Ltd

project title

Land east of Warwick Road, Banbury

drawing title

April Breeding Bird Survey Results

date	**21 JULY 2022**	drawn by	**GY**
drawing number	**edp3253_d014a**	checked	**CL**
scale	**1:3,500 @ A3**	QA	**JTF**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

Site Boundary

Study Area

Red Listed Bird

Amber Listed Bird

Species

D.	Dunnock
GR	Greenfinch
LI	Linnet
S.	Skylark
SG	Starling
ST	Song Thrush
WH	Whitethroat
WP	Woodpigeon
WR	Wren
Y.	Yellowhammer

client

Vistry Homes Ltd

project title

Land east of Warwick Road, Banbury

drawing title

May Breeding Bird Survey Results

date	**21 JULY 2022**	drawn by	**GY**
drawing number	**edp3253_d015a**	checked	**CL**
scale	**1:3,500 @ A3**	QA	**JTF**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

Site Boundary

Study Area

Red Listed Bird

Amber Listed Bird

Species

BF	Bullfinch
D.	Dunnock
LI	Linnet
S.	Skylark
SH	Sparrowhawk
ST	Song Thrush
WH	Whitethroat
WR	Wren
Y.	Yellowhammer

client

Vistry Homes Ltd

project title

Land east of Warwick Road, Banbury

drawing title

June Breeding Bird Survey Results

date	**21 JULY 2022**	drawn by	**GY**
drawing number	**edp3253_d016a**	checked	**CL**
scale	**1:3,500 @ A3**	QA	**JTF**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

Site Boundary

Study Area

Tree with High Bat Roost Potential

Tree with Moderate Bat Roost Potential

Tree with Low Bat Roost Potential

client

Vistry Homes Ltd

project title

Land east of Warwick Road, Banbury

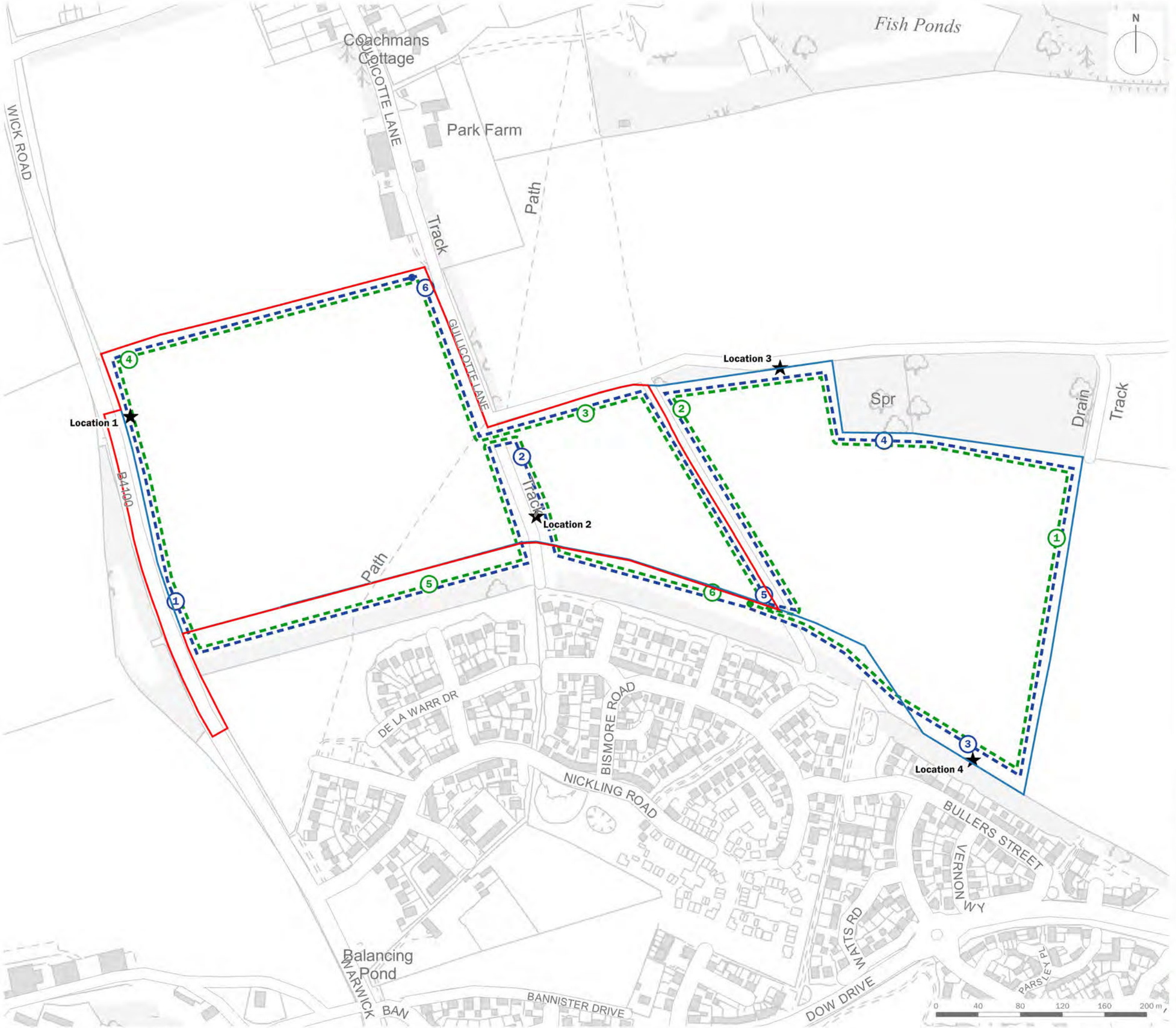
drawing title

Bat Tree Roost Assessment

date	**21 JULY 2022**	drawn by	**GY**
drawing number	**edp3253_d012a**	checked	**ND**
scale	**1:3,500 @ A3**	QA	**JTF**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk



Site Boundary

Study Area

Automated Detector Location

Transect Routes and Pacing Points

Transect 1

Transect 2

client

Vistry Group

project title

Land East of Warwick Road, Banbury

drawing title

Bat Activity Transect Routes

date	**21 JULY 2022**	drawn by	**GY**
drawing number	**edp3253_d011a**	checked	**ND**
scale	**1:3,500 @ A3**	QA	**JTF**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

Site Boundary

Study Area

Transect Route

Bat Species

- Common Pipistrelle
- Soprano Pipistrelle
- Mytiosis Sp.
- Barbastelle
- Brown Long-eared Sp.
- Noctule

client

Vistry Homes Ltd

project title

Land east of Warwick Road, Banbury

drawing title

Bat Activity Transect Survey May

date	**21 JULY 2022**	drawn by	**GY**
drawing number	**edp3253_d019a**	checked	**ND**
scale	**1:3,500 @ A3**	QA	**JTF**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

Site Boundary

Study Area

Transect Route

Bat Species

Common Pipistrelle

Soprano Pipistrelle

client

Vistry Homes Ltd

project title

Land east of Warwick Road, Banbury

drawing title

Bat Activity Transect Survey July Dusk

date	**21 JULY 2022**	drawn by	**GY**
drawing number	**edp3253_d020a**	checked	**ND**
scale	**1:3,500 @ A3**	QA	**JTF**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

Site Boundary

Study Area

Transect Route

Bat Species

Common Pipistrelle

Soprano Pipistrelle

Myotis Sp.

Noctule

client

Vistry Homes Ltd

project title

Land east of Warwick Road, Banbury

drawing title

Bat Activity Transect Survey July Dawn

date	**21 JULY 2022**	drawn by	**GY**
drawing number	**edp3253_d022a**	checked	**ND**
scale	**1:3,500 @ A3**	QA	**JTF**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

client

Vistry Homes Ltd

project title

Land east of Warwick Road, Banbury

drawing title

Bat Activity Transect Survey September

date	**21 JULY 2022**	drawn by	**GY**
drawing number	**edp3253_d021a**	checked	**ND**
scale	**1:3,500 @ A3**	QA	**JTF**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

- Site Boundary (12.63ha)
- 1 Arrival Square
- 2 Attenuation Pond
- 3 Wildflower Meadow and Oak Parkland
- 4 Woodland Planting
- 5 Public Right of Way Integrated within Green Corridor
- 6 Vehicular Access Point
- 7 Main Street With Green Verge, Including Rain Gardens
- 8 Neighbourhood Green with Swale
- 9 Natural Play Space
- 10 Informal Kick-about Space
- 11 Mown Grass Trails

client
Vistry Homes Ltd

project title
Land to the East of Warwick Road, Banbury

drawing title
Concept Masterplan

date	06 OCTOBER 2022	drawn by	NBo
drawing number	edp3253_d038d	checked	RAl
scale	1:5,000 @ A3	QA	RBa

edp the environmenta dimens on partnership
Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

Site Boundary

Habitats Lost

Lost Hedgerow

Retained Habitats

Retained Improved Grassland

Retained Hardstanding

Retained Hedgerow

Created Habitats

Other Broadleaved Woodland (Poor Condition)

Mixed Scrub (Moderate Condition)

Modified Grassland (Poor and Moderate Condition)

Other Neutral Grassland (Moderate Condition)

Sustainable Urban Drainage System (Moderate Condition)

Developed Land (sealed surface) 70% and Vegetated Garden 30%

Bare Ground

New Hedgerow (Native Species Rich with Trees Good Condition)

client

Vistry Homes Ltd

project title

Land east of Warwick Road, Banbury

drawing title

Post Development Habitats

date	**06 OCTOBER 2022**	drawn by	**GYo**
drawing number	**edp3253_d043b**	checked	**NDo**
scale	**1:2,500 @ A3**	QA	**JFr**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

the environmental dimension partnership

CARDIFF
02921 671900

CHELTENHAM
01242 903110

CIRENCESTER
01285 740427

info@edp-uk.co.uk
www.edp-uk.co.uk

The Environmental Dimension Partnership Ltd. Registered as a Limited Company in England and Wales. Company No. 09102431. Registered Office: Tithe Barn, Barnsley Park Estate, Barnsley, Cirencester, Gloucestershire GL7 5EG

REGISTERED ORGANISATION CIfA

URBAN DESIGN GROUP REGISTERED PRACTICE

IEMA Transforming the world to sustainability

Landscape Institute
Registered practice