



Countryside Properties Ltd.

Himley Village, Bicester

ECOLOGICAL APPRAISAL

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FPCR Environment and Design Ltd

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CONTENTS

EXECUTIVE SUMMARY 2

1.0 INTRODUCTION 4

2.0 METHODOLOGY..... 6

3.0 RESULTS..... 12

4.0 DISCUSSION, RECOMMENDATIONS AND CONCLUSIONS..... 21

5.0 WORKING METHOD STATEMENT (REPTILES) 27

TABLES

- Table 1: HSI Scores as a Measure of Pond Suitability
- Table 2: Bat Survey Protocol for Trees
- Table 3: Summary of the Extent of the Hedgerows and their Ecological Value
- Table 4: Summary of Pond Descriptions and HSI

APPENDICES

- Appendix A: Botanical Species List
- Appendix B: GCN Habitat Suitability Index for Ponds within 500m

FIGURES

- Figure 1: Site Location & Consultation Results Plan
- Figure 2: Phase 1 Habitat Plan
- Figure 3: Waterbody Location Plan

EXECUTIVE SUMMARY

- FPCR Environment and Design Ltd. were commissioned by Countryside Properties Ltd. to complete an ecological assessment on land at Himley Village, Bicester in order to satisfy Condition 25 of an outline planning permission (Ref: 14/02121/OUT). The site was dominated by two arable field compartments with other habitats present within or bounding the site including hardstanding, standing water, broad-leaved trees, hedgerow, improved grassland, scattered trees, broadleaved plantation woodland, dense/continuous scrub, fence lines, dry ditches, scattered scrub, buildings, garden and a garden orchard.
- No impacts on the nature conservation status of statutory designated and non-statutory designated sites are anticipated from both construction and operational phases of the development.
- Habitat offering negligible ecological value includes arable land, hardstanding, buildings, garden and fence. Loss of these habitats will not adversely impact local biodiversity. Habitat offering low ecological value at site level includes improved grassland, dense/continuous scrub, dry ditch and scattered scrub with loss mitigated by habitats recommended within the site's GI/POS. Habitats offering higher ecological value includes scattered trees, broadleaved plantation woodland, standing water (pond), orchard, broad-leaved trees and hedgerow. Standing water, scattered trees and broadleaved plantation woodland will be fully retained and buffered within the scheme. Aside from a small number of minor stretches and hedgerow, the vast majority of hedgerow is to be retained and buffered from development within the site. New native species rich hedgerow will be established as mitigation for hedgerow loss within the GI/POS.
- Two standing waterbodies were present within the site (P1 and P2) with a further single pond located within a 500m radius of the site. Previous aquatic presence/absence surveys undertaken on ponds P2 and P3 have identified a 'medium' population size-class of GCN utilising these ponds. As a result, it has been recommended that the site will be entered into a district licencing scheme for GCN.
- No buildings were considered to offer features suitable to support roosting bats and the presence of a bat roost within buildings has not been identified as a statutory constraint to development. A single tree (T1) was identified to present features suitable to provide a 'low' bat roosting potential. Tree T1 is to be retained as part of the scheme. The vast majority of habitat comprised unsuitable commuting and foraging habitat with suitable commuting and foraging habitat limited to scattered trees, broadleaved plantation woodland including the pond, hedgerows, the broad-leaved tree line and scrub. Previous activity survey work undertaken at the site and across the wider site boundary comprised low numbers of common and widespread species. Proposals include the retention of the ponds scattered trees and broadleaved plantation woodland and the vast majority of the hedgerows. Retained habitat of value to commuting and foraging bats is to be buffered from development by GI/POS and further suitable habitat of value to bats is to be established within GI/POS.
- No active setts were identified within the site or within a 30m radius. A number of inactive badger setts were identified, some not inhabited by rabbit. Badgers have not been identified as a statutory constraint to development, but an updated badger survey should be undertaken prior to site works commencing.

- Reptile presence / absence surveys undertaken previously within the site identified no reptiles present, however, incidental and historical records identified common lizard and grass snake within the wider site boundary. The vast majority of habitat providing suitable reptile commuting, foraging and sheltering resources for reptiles in the form of hedgerows and scattered scrub is to be retained and the full retention of scattered trees and broadleaved plantation woodland, with these features buffered from development. It has been recommended as a precaution, that all site clearance works of suitable habitats will be undertaken under a working method statement and ecologist supervision.
- The site provides suitable breeding, ground nesting and overwintering habitat. The majority of suitable nesting habitat is to be retained within the development. To avoid disturbance to nesting birds any vegetation clearance should be undertaken prior to the bird-breeding season (i.e. avoiding March to August inclusive) to minimise the risk of disturbance to nesting birds. If this is not possible, habitats will be checked prior to removal by an experienced ecologist. Suitable breeding habitat is to be established within the sites GI/POS.

1.0 INTRODUCTION

1.1 The following report has been prepared by FPCR Environment and Design Ltd. on behalf of Countryside Properties Ltd. and provides details of an Ecological Appraisal undertaken at land at Himley Farm, Bicester, Oxfordshire (hereafter referred to as the 'site'). The site is centred on the ordnance survey grid reference SP558232. An extended Phase 1 habitat survey was completed on 29th October 2020 to discharge an ecological condition for a residential development and associated infrastructure on outline planning permission (Ref: 14/02121/OUT) granted by Cherwell District Council for the development of a phase of Himley Village, Bicester.

1.2 The site and a wider survey area has been subjected to previous habitat and protected species surveys undertaken between 2010 and 2014 to inform the outline application.

1.3 Objectives of the surveys were to:

- Update previous ecological survey work of the site and a wider survey area (previous surveys undertaken in 2010, 2011 and 2014 (North West Bicester Eco development: Technical Appendix 6A to 6I: Ecology Surveys, Hyder Consulting (2014) and Appendix 7.1: Note of Phase 1 Habitat Survey of Himley Farm, Gary Grant (2014))).
- Obtain detailed baseline information on the habitats and ecological features of the site;
- Identify the presence of any Habitat of Principal Importance under Section 41 of the Natural Environmental and Rural Communities (NERC) Act 2006¹;
- Identify the presence of any 'Important' hedgerows as defined in the Hedgerow Regulations, 1997²;
- Identify the presence, or the potential for the presence, of any protected species, such as, although not limited to, those protected under the Wildlife and Countryside Act 1981 (as amended)³ or the Conservation of Habitats and Species Regulations 2017 (as amended)⁴;
- Identify any further, specialist surveys that may be required to support a planning application.

1.4 Condition 25 states;

'No development shall commence on any phase unless or until an up to date ecological survey has been undertaken to establish changes in the presence, abundance and impact on biodiversity within that phase. The survey results, together with an updated biodiversity mitigation plan and method statement shall be submitted to and approved in writing by the Local Planning Authority. Thereafter, the development of the phase shall be carried out in accordance with the approved Mitigation Plan and Method Statement.'

Site Location and Context

1.5 The site forms the majority of the southern extent of a wider phased masterplan boundary; Planning Ref: 14/02121/OUT, for the provision of up to 1,700 residential dwellings (Class C3), a retirement village (Class C2), flexible commercial floorspace (Classes A1, A2, A3, A4, A5, B1, C1 and D1),

¹ <https://www.legislation.gov.uk/ukpga/2006/16/contents>

² <http://www.legislation.gov.uk/uksi/1997/1160/contents/made>

³ *The Wildlife and Countryside Act 1981 (as amended)*. [Online]. London: HMSO Available from <http://www.legislation.gov.uk/ukpga/1981/69>

⁴ <http://www.legislation.gov.uk/uksi/2017/1012/contents/made>

social and community facilities (Class D1), land to accommodate one energy centre and land to accommodate one new primary school (up to 2FE) (Class D1).

- 1.6 The site was dominated by arable land and comprised two separate arable field compartments. Other habitat comprised hardstanding, standing water, hedgerow and hedgerow with trees, broadleaved trees, dry ditch, scattered scrub, garden orchard, garden, buildings, improved grassland, scattered trees, dense/continuous scrub, broadleaved plantation woodland and fence line.
- 1.7 The northern site boundary was formed by hedgerow, scattered scrub line and continuation of improved grassland and arable field compartments, the western a hedgerow with trees, the southern the continuation of arable field compartments and hedgerow with trees and the eastern a hedgerow.
- 1.8 Habitat to the north of the site comprised the continuation of arable and improved grassland fields, to the west arable field compartments and hedgerows, to the south the continuation of arable fields and the B4030 (Middleton Stoney Road) and to the east a distribution centre in the process of being constructed.

2.0 METHODOLOGY

Desk Study

- 2.1 A consultation exercise was completed with statutory and non-statutory nature conservation organisations for baseline ecological information from the preceding 20 years. The search area for biodiversity information was related to the significance of sites and species and potential zones of influence, as follows:
- 15km around the application area for sites of International Importance (e.g. Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Ramsar sites);
 - 2km around the application area for sites of National or Regional Importance (e.g. Sites of Special Scientific Interest (SSSIs) and Local Nature Reserves (LNRs)); and
 - 1km around the application site for non-statutory sites of County or Local Importance (e.g. Sites of Importance for Nature Conservation (SINC), Local Wildlife Sites (LWSs), potential Local Wildlife Sites (pLWS) County Wildlife Site (CWS)) and species records (e.g. legally protected or notable species);
- 2.2 Organisations consulted included:
- Natural England via the Multi Agency Geographic Information for the Countryside (MAGIC) website (www.magic.defra.gov.uk);
 - Thames Valley Environmental Records Centre.
- 2.3 Further inspection, using colour 1:25,000 OS base maps (www.ordnancesurvey.co.uk) and aerial photographs from Google Earth (www.maps.google.co.uk), was also undertaken in order to provide additional context and identify any features of potential importance for nature conservation in the wider countryside.

Field Survey

Extended Phase 1 Survey Habitats

- 2.4 An Extended Phase 1 Habitat Survey was undertaken which involved classification of the broad habitat types present using the system published by the UK Joint Nature Conservation Committee⁵. This comprised a walkover of the site, mapping and broadly describing the principal habitat types and identifying the dominant plant species present within each habitat type and any invasive weeds (where present). Whilst the plant species lists obtained should not be regarded as exhaustive, sufficient information was obtained to determine broad habitat types. This survey was completed on 29th October 2020 and 11th February 2021 by a level 3 FISC surveyor.
- 2.5 Throughout the walkover survey consideration was additionally given to the actual or potential presence of protected species, such as, although not limited to those protected under the Wildlife and Countryside Act 1981 (*as amended*), the Protection of Badgers Act 1992⁷ and the Conservation of Habitat and Species Regulations 2017 (*as amended*).

⁵ JNCC 2010. *Handbook for Phase 1 habitat survey - a technique for environmental audit*, ISBN 0 86139 636 7

⁷ *The Protection of Badgers Act 1992 (as amended)*. [Online]. London: HMSO Available from: <http://www.legislation.gov.uk/ukpga/1992/51/contents>

Hedgerows

- 2.6 Hedgerows were surveyed using the Hedgerow Evaluation and Grading System (HEGS)⁸. The aim of the assessment is to allow the rapid recording and ecological appraisal of any given site in the UK, and to allow the grading of the individual hedges present, in order to identify those which are likely to be of greatest significance for wildlife. This method of assessment includes noting down: canopy species composition, associated ground flora and climbers; structure of the hedgerow including height, width and gaps, and associated features including number and species of mature tree and the presence of banks, ditches and grass verges.
- 2.7 Using the HEGS methodology each hedgerow can then be given a grade. These grades are used to assign a nature conservation value to each hedgerow as follows:
- Grade -1, 1, 1+ High to Very High Value
 - Grade -2, 2, 2+ Moderately High to High Value
 - Grade -3, 3, 3+ Moderate Value
 - Grade -4, 4, 4+ Low Value
- 2.8 Hedgerows graded -2 or above are suggested as being a nature conservation priority.
- 2.9 The hedgerows were also assessed for their potential ecological value under the Hedgerow Regulations 1997 (Statutory Instrument No: 1160)⁹ to determine whether they qualified as 'Important Hedgerows' under the Regulations. This was achieved using a methodology in accordance with both the Regulations and DEFRA guidance. An assessment of archaeological importance as defined under the Hedgerow Regulations 1997 was beyond the scope of this assessment.
- 2.10 All hedgerows were also assessed as to whether they qualified as Habitats of Principal Importance (Priority Habitats) under Section 41 of the NERC Act 2006, i.e. whether they consisted of 80% or more native woody species.

Fauna

Great Crested Newt

- 2.11 As part of the Phase 1 habitat survey a habitat suitability index (HSI) assessment was completed on accessible ponds within 500m of the survey area where suitable habitat connectivity was identified using OS mapping and aerial photographs. This provides a measure of the likely suitability that a waterbody has for supporting great crested newt *Triturus cristatus* (GCN). Whilst not a direct indication of whether or not a pond will support the species, generally, those with a higher score are more likely to support GCN than those with a lower score, and there is a positive correlation between HSI scores and ponds in which GCN are recorded. Ten separate attributes are assessed for each pond to calculate the suitability of the ponds to support GCN:
- Location (Area A, B or C within the UK);
 - Pond area (size in m²);
 - Fowl (impact of waterfowl if present);
 - Fish (impact of fish if present);

⁸ Clements, D.K. & Tofts, R.J. 1992. *Hedgerow Evaluation and Grading System (HEGS): A methodology for the ecological survey, evaluation and grading of hedgerows.*

⁹ *The Hedgerow Regulations 1997 – Statutory Instrument 1997 No. 1160.* [Online]. London: HMSO. Available at: <http://www.legislation.gov.uk/uksi/1997/1160/contents/made>.

- Permanence (how many times it likely dries out in a decade);
- Water quality (invertebrate diversity);
- Shade (percentage of a water body's perimeter shaded);
- Pond count (density of ponds within 1km)
- Terrestrial habitat (quality of surrounding habitat); and
- Macrophytes (percentage of surface area occupied).

2.12 A score is assigned according to the most appropriate criteria level set within each attribute and a final score calculated of between 0 and 1. Pond suitability is then determined according to the scale shown in Table 1.

Table 1: HSI Scores as a Measure of Pond Suitability

HSI score	Pond Suitability
<0.5	Poor
0.5 - 0.59	Below average
0.6 – 0.69	Average
0.7 – 0.79	Good
>0.8	Excellent

Bats

Ground Level Tree Assessment

2.13 Tree assessments were undertaken from ground level, with the aid of a torch and binoculars (where appropriate). These surveys were undertaken on 29th October 2020 and 11th February 2021 by a suitably experienced ecologist. During the survey Potential Roosting Features (PRF) for bats such as the following were sought (Based on P16, British Standard 8596:2015 Surveying for bats in trees and woodland, October 2015):

- Natural holes (e.g. knot holes) arising from naturally shed branches or cavities created by branches tearing out from parent stems).
- Man-made holes (e.g. cavities that have developed from flush cuts or branches previously pruned back to a branch collar).
- Woodpecker holes.
- Cracks/splits in stems or branches (horizontal and vertical).
- Partially detached, loose or bark plates.
- Cankers (caused by localised bark death) in which cavities have developed.
- Other hollows or cavities, including butt rots.
- Compression of forks with occluded bark, forming potential cavities.
- Crossing stems or branches with suitable roosting space between.
- Ivy stems with diameters in excess of 50mm with suitable roosting space behind (or where roosting space can be seen where a mat of thinner stems has left a gap between the mat and the trunk).

- Bat or bird boxes.
- 2.14 Certain factors such as orientation of the feature, its height from the ground, the direct surroundings and its location in respect to other features may enhance or reduce the potential value.
- 2.15 Trees were classified into general bat roost potential groups based upon the presence of these features. Table 2 (below) broadly classifies the potential categories as accurately as possible as well as discussing the relevance of the features. This table is based upon Table 4.1 and Chapter 6 in Bat Surveys for Professional Ecologists: Good Practice Guidelines (J., Collins (Bat Conservation Trust), 2016).
- 2.16 Although the British Standard 8596:2015 document groups trees with moderate and high potential, these have been separated below (as per Table 4.1 in The Bat Conservation Trust Guidelines) to allow more specific survey criteria to be applied.

Table 2: Classification and Survey Requirements for Bats in Trees

Classification of Tree	Description of Category and Associated Features (based on Potential Roosting Features listed above)	Likely Further Survey Work / Actions
High Potential	A tree with one or more Potential Roosting Features that are obviously suitable for larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter protection, conditions (height above ground level, light levels, etc) and surrounding habitat. Examples include (but are not limited to); woodpecker holes, larger cavities, hollow trunks, hazard beams, etc.	<p>Aerial assessment by roped access bat workers (if appropriate) and / or nocturnal survey during appropriate period (May to August).</p> <p>Following additional assessments a tree may be upgraded or downgraded based on findings.</p> <p>If roost sites are confirmed and the tree or roost is to be affected by proposals a licence from Natural England will be required.</p> <p>After completion of survey work (and the presence of a bat roost is discounted), a precautionary working method statement may still be appropriate.</p>
Moderate Potential	A tree with Potential Roosting Features which could support one or more potential roost sites due to their size, shelter protection, conditions (height above ground level, light levels, etc) and surrounding habitat but unlikely to support a roost of high conservation status (i.e. larger roost, irrespective of wider conservation status). Examples include (but are not limited to); woodpecker holes, rot cavities, branch socket cavities, etc.	<p>A combination of aerial assessment by roped access bat workers and / or nocturnal survey during appropriate period (May to August).</p> <p>Following additional assessments a tree may be upgraded or downgraded based on findings.</p> <p>After completion of survey work (and the presence of a bat roost is discounted), a precautionary working</p>

Classification of Tree	Description of Category and Associated Features (based on Potential Roosting Features listed above)	Likely Further Survey Work / Actions
		method statement may still be appropriate. If a roost site/s is confirmed a licence from Natural England will be required.
Low Potential	A tree of sufficient size and age to contain Potential Roosting Features but with none seen from ground or features seen only very limited potential. Examples include (but are not limited to); loose/lifted bark, shallow splits exposed to elements or upward facing holes.	No further survey required but a precautionary working method statement may be appropriate.
Negligible/No potential	Negligible/no habitat features likely to be used by roosting bats	None.

* The Conservation of Habitats & Species Regulations 2017 (*as amended*) affords protection to “breeding sites” and “resting places” of bats. The EU Commission’s Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC, February 2007 states that these are places “where there is a reasonably high probability that the species concerned will return”.

Internal / External Building Assessment

- 2.17 Evaluation of all buildings was carried out by suitably qualified ecologist on 11th February 2021. This entailed a full internal and external inspection of buildings on site. This methodology takes into account the statutory guidance¹⁰ and updated guidelines introduced by the Bat Conservation Trust¹¹ and earlier guidance within the 2004 Bat Workers Manual¹².
- 2.18 The building exteriors were visually assessed for potential access points and evidence of bat activity. Features such as small gaps under barge/soffit/fascia boards, raised or missing ridge tiles and gaps at gable ends, which have potential as access points, were sought.
- 2.19 The interior of the buildings, including roof voids where present and accessible, were also visually assessed for evidence of bat activity and/or for the potential to be used by bats.

Badger

- 2.20 All hedgerows and other suitable habitats within the development boundary and accessible land within 30m were searched for evidence of badger *Meles meles* activity. Methodology employed followed that outlined by Harris and Creswell and Jefferies¹³.
- 2.21 Evidence of badger occupation and activity sought included:
 - Setts: including earth mounds, evidence of bedding and runways between setts;

¹⁰ English Nature 2001. *Bat Mitigation Guidelines*.

¹¹ Bat Conservation Trust (BCT) 2016. *Bat Surveys for Professional Ecologists, Good Practice Guidelines*, 3rd Edition

¹² Mitchell-Jones, A.J. & McLeish, A.P. Ed. 2004. *Bat Workers' Manual* 3rd Edition

¹³ Harris, S., Creswell, P. & Jefferies, D. 1989. *Surveying for badgers*. Occasional Publication of the Mammal Society No. 9. Mammal Society, Bristol.

- Latrines: often located close to setts, at territory boundaries or adjacent to favoured feeding areas;
- Prints and paths or trackways;
- Hairs caught on rough wood or fencing; and
- Other evidence: including snuffle holes, feeding and playing areas and scratching posts.

Reptiles

- 2.22 Habitats present within the site were considered for their potential suitability to support reptile populations, including the presence of features which provide opportunities for reptiles to bask, forage and/or hibernate, and areas of varied vegetation structure in sheltered locations with sunny aspects and connectivity to other suitable reptile habitats. This assessment was based on the methodology detailed in the Herpetofauna Workers Manual¹⁴ and the Froglife Advice Sheet¹⁵.

Birds

- 2.23 Habitats present within the site were considered for their potential suitability to support nesting birds, including ground nesting species.
- 2.24 Habitats present within the site were additionally considered for their potential suitability as a resource to support overwintering bird populations.

¹⁴ Gent, A.H. & Gibson, S.D., eds., 1998. Herpetofauna workers' manual. Peterborough, Joint Nature Conservation Committee.

¹⁵ Froglife, 1999. *Reptile survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10.* Froglife, Halesworth.

3.0 RESULTS

Desk Study (Figure 1)

Statutory Designations

- 3.1 The site is not covered by or does not lie adjacent to any statutory designated site of nature conservation.
- 3.2 There is a single internationally designated site of nature conservation located within 15km of the site.
- 3.3 Oxford Meadows SAC was located c.14.4km south-west of the site and comprises vegetation communities that reflect the influence of long-term grazing and hay-cutting on lowland hay meadows. The site qualified for SAC selection due to Lowland hay meadows habitat and creeping marshwort *Apium repens*, the largest of only three known sites in the UK.
- 3.4 There were three nationally designated sites of nature conservation located within 2km of the site.
- 3.5 Ardley Cutting and Quarry Site of Special Scientific Interest (SSSI) was located c.1.4km north of the site and comprises limestone grassland, along with scrub, ancient woodland and wetland habitats. This designation also supports fauna interest including calcareous grassland butterflies such as brown argus *Aricia agestis* and Duke of Burgundy *Hamearis lucina* and part of a GCN population.
- 3.6 Ardley Trackways SSSI was located c.1.7km north-west of the site. The designation as a SSSI is for the sites geological interest and not for nature conservation interest.
- 3.7 Bure Park Local Nature Reserve (LNR) was located c.1.4km north-east of the site and comprises grass meadow, young broad-leaved woodland, hedges and scrub. A small river (the Bure) runs through the site, feeding a small pond which is home to great crested newts. A balancing pond at one end of the reserve is fed by run-off from the area.

Non-Statutory Designations

- 3.8 The site is not covered by or does not lie adjacent to any non-statutory designated site of nature conservation.
- 3.9 Shakespeare Drive Local Wildlife Site (LWS) was the only non-statutory designated site located within 1km of the site. The site was located c.840m east of the site and comprises a small site within Bicester, surrounded by residential development. It has semi-improved grassland with lines of trees and marginal strips of plantation woodland. It includes a hard-surfaced water channel. Central areas of ground are waterlogged and the grassland includes elements of lowland meadow.

Species Records

- 3.10 No records of GCN, bats or reptiles were returned within 1km of the site.
- 3.11 A single record of badger was returned and located adjacent to the north-eastern site boundary (exact location available upon request).
- 3.12 A small number of bird records were returned within 1km of the site, including a record for common kestrel *Falco tinnunculus* located adjacent to the southern boundary of the site. Other species

identified included gadwall *Anas strepera*, northern lapwing *Vanellus vanellus*, red kite *Milvus milvus*, ring ouzel *Turdus torquatus* and skylark *Alauda arvensis*.

Field Survey – Habitats

Overview

- 3.13 The habitats described below correspond to those mapped on Figure 2: Phase 1 Habitat Plan. Plant species lists for each habitat are provided in Appendix A.
- 3.14 The site was dominated by two large arable field compartments. Other habitats present within the site included hardstanding, standing water, broadleaved trees, hedgerow and hedgerow with trees, a dry ditch, scattered scrub and fence line.
- 3.15 Habitat bounding the site included a hedgerow and scattered scrub along the north, a hedgerow with trees along the west, a hedgerow with trees and the continuation of arable field compartment along the south and a hedgerow and broadleaved trees along the east.

Arable

- 3.16 The site was dominated by part of two large arable field compartments.
- 3.17 At the time of survey, the western field compartment was intensively managed having been recently cultivated and sown with an unidentified winter crop monoculture. The eastern field compartment was fallow in management and displayed no recent evidence of cultivation. Arable field colonising weed species had established, comprising occasionally occurring common ragwort *Jacobaea vulgaris*, creeping bent *Agrostis stolonifera*, Canadian fleabane *Conyza canadensis* and bristly oxtongue *Helminthotheca echioides*. A small proportion of the south of the western arable field compartment (TN13) was also left fallow.
- 3.18 Both arable field compartments comprised an arable field margin of c.1-2m in width and were dominated by grass species. Species included false oat-grass *Arrhenatherum elatius* and cock's-foot *Dactylis glomerata*. There was a very limited abundance and diversity of herbaceous species.
- 3.19 No material change of habitat has been identified since the initial 2010 survey, with both field compartments identified as arable land. The western field compartment remains intensively managed and cultivated albeit the eastern compartment is now identified as having no recent management. During the updated 2014 phase 1 survey, the eastern field compartment was identified as managed arable land, but the western field compartment had been sowed to improved grassland.

Improved Grassland

- 3.20 Small sections of three improved grassland field compartments were present within the north of the site. At the time of survey, all were heavily managed via frequent horse grazing and all exhibited a short and fine sward of c.1-5cm. Species composition and abundance was homogenous between the three areas, with cock's-foot, perennial rye-grass *Lolium perenne* and bent grass species *Agrostis sp.* all recorded as frequently occurring in abundance. The sward was identified as low in herbaceous diversity and abundance.
- 3.21 No material change in habitat has been identified since the 2014 survey, with these areas identified as improved grassland.

Broadleaved Plantation Woodland

- 3.22 A small section of a strip of recently planted broadleaved plantation woodland was present along the eastern periphery of the site. As indicated by previous surveys, the plantation woodland is c.25-30 years old. The woodland exhibited a mixed wooded plating regime, with no particular species identified as dominant. Woody species recorded included birch *Betula* species, ash *Fraxinus excelsior*, hazel *Corylus avellan*, field maple *Acer campestre*, wild cherry *Prunus avium*, English oak *Quercus robur*, beech *Fagus sylvatica*, holly *Ilex aquifolium* and willow *Salix* species. The woodland lacked an established understorey layer throughout the majority of the plantation and the understorey and ground layer were identified as bright and open due to the immature nature of the plantation canopy. The ground layer was dominated by grasses, including cock's-foot and false oat-grass and nutrient soil enriched herbaceous species including cleavers *Galium aparine*.
- 3.23 No material change in habitat type or species composition and management of the plantation has been identified between the 2010 and 2014 surveys and this survey.

Scattered Trees

- 3.24 A small area of scattered trees was present surrounding a pond located within the east of the site (pond P2).
- 3.25 Species composition was dominated by semi-mature willow species. No evidence of management was identified. The understorey and ground layer were heavily shaded and dominated by common nettle *Urtica dioica*.

Standing Water

- 3.26 Two ponds were present within the site boundary.
- 3.27 Pond P1 was located within the western arable field compartment along the northern site boundary. The pond was a small shallow field edge pond and was heavily shaded and surrounded by scrub and outgrown hedgerow. No aquatic vegetation was present and the pond margins comprised very limited marginal vegetation. This pond had not been identified during previous survey work.
- 3.28 Pond P2 was located within the east of the site adjacent to the southern site boundary. The pond was heavily shaded and surrounded by scattered willow species trees. No aquatic vegetation was present, and the pond exhibited heavy leaf litter. No recent management of the scattered trees surrounding pond P2 was evident, and the heavily shaded nature of the pond compared with the 2014 survey will have accounted for the reduction and loss in pond and marginal vegetation.

Scattered and Dense/Continuous Scrub

- 3.29 A line of scattered scrub dominated by blackthorn *Prunus spinosa* was present and ran part of the way along hedgerow H1 and H2. Both hedgerows exhibited no evidence of recent management, the hedgerow had become outgrown and scattered scrub had established between the hedgerow and the arable land. Other species identified, all rarely occurring in abundance comprised bramble *Rubus fruticosus* agg. and rose *Rosa* species.
- 3.30 Dense continuous scrub was semi-mature in establishment was present surrounding part of the scattered trees. Species composition was solely and dominated by bramble.

Dry Ditch

- 3.31 A dry ditch was present along the south and east of hedgerow H4. The ditch was c.75cm in depth and c.1m in width, comprised c.45° banks and was dominated by arable field margin vegetation. The banks were shaded on one side by hedgerow H4. Furthermore, a dry ditch was additionally present bordering hedgerow H1 and was entirely shaded by the hedgerow.

Broadleaved Trees

- 3.32 A single short broad-leaved tree line was present along the eastern site boundary at its northern extent. Species were semi-mature in age and were dominated by aspen *Populus tremula*. A small line of semi-mature wild cherry *Prunus avium* trees was additionally located separating the garden from the orchard.
- 3.33 A single mature English oak tree (tree T1) was located along hedgerow H6 along the south of the site.

Garden Orchard

- 3.34 A small garden orchard was present within the south of the site associated with a bungalow dwelling. Approximately twenty semi-mature fruiting trees were present. Species included Bramley apple *Malus domestica*, pear *Pyrus sp.* and plum *Prunus domestica*. The orchard exhibited no evidence of intensive and/or frequent management, with the ground vegetation at the time of survey dominated by unmanaged grassland exhibiting a sward height of >30cm.

Hedgerows

- 3.35 A total of seven hedgerows were present, either bounding or located within this site phase. Table 3 provides a summary of the ecological value of each.
- 3.36 All hedgerows consisted of 80% or more native woody species and are therefore classified as Habitats of Principal Importance. Hedgerows H2 and H3 qualified as important under the wildlife and landscape criteria of the Hedgerows Regulations 1997. Furthermore, hedgerows H2, H3 and H7 were classed as 'species rich' due to an average of >5 species recorded per 30m.

Table 3: Summary of the Extent of the Hedgerows and their Ecological Value

Ref.	Canopy Sp.	Height / Width (m)	Length (m)	Sp. per Av. 30m	Associated Features	HEGS Grade	Import. HR*
H1	<i>Cm, Ps, Ca, Ac, Ms, Fe</i>	>4 / >4	383	4.33	<10% gaps, >4 connections, ditch	2+ (Moderately High to High)	No
H2	<i>Fe, Ms, Cm, Up, Ps, Ca, Sn, Ac</i>	>4 / >4	396	6.33	>1 standard tree/50m, <10% gaps, >4 connections	-1 (High to Very High)	Yes
H3	<i>Ps, Ca, Sn, Cm, Ms, Ac</i>	>4 / 2-3	399	6	>1 standard tree/50m, <10% gaps, adjacent PRow	2+ (Moderately High to High)	Yes
H4	<i>Ap, Ca, Ms, P sp, Cm, Ac, Fe</i>	>4 / 2-3	642	4.67	<10% gaps, ditch, >4 connections	-2 (Moderately High to High)	No
H5	<i>Ca, Cm, Fe</i>	>4 / >4	283	1.67	-	3 (Moderate)	No

Ref.	Canopy Sp.	Height / Width (m)	Length (m)	Sp. per Av. 30m	Associated Features	HEGS Grade	Import. HR*
H6	<i>Cm, Ps, Up, Fe, Sn, Qr, Ap</i>	2-4 / 1.5-2	274m	4.67	<10% gaps, >4 connections, Adj PRow	-2 (Moderately High to High)	No
H7	<i>Fe, Cm, Ps, Ac, Rsp, Up</i>	>4 / >4	129m	6	<10% gaps	2+ (Moderately High to High)	No

Cm – Hawthorn, Ps – Blackthorn, Ca – Hazel, Ac – Field maple, Ms – Crab Apple, Fe – Ash, Up – Elm, Sn – Elder, Ap – Sycamore, P sp – Cherry species, Rsp – Rose species

- 3.37 The 2010 hedgerow surveys identified the majority of hedgerows as ‘important hedgerows’ and ‘species rich hedgerows’, with the majority unmanaged in structure and management. During the 2020 survey, hedgerows H1, H2, H3, H5 and H7 exhibited no evidence of recent and/or frequent management. Hedgerow H4 and H6 exhibited evidence of frequent management due to the proximity of the adjacent track and road.

Hardstanding

- 3.38 A private unsealed hardstanding track was present running through the centre of the site and separated the two arable field compartments.

Buildings & Gardens

- 3.39 Two buildings (B1 & B2) and a single garden were partially located within the site boundary.
- 3.40 Building descriptions are located in the bat section below.
- 3.41 The garden predominantly comprised infrequently managed lawn and some planting.

Fauna

Great Crested Newt

- 3.42 Two standing waterbodies (P1 & P2: Figure 3) were present within the site boundary with another pond located within a 500m radius of the site (Figure 3).
- 3.43 Hardstanding was considered to provide no suitable terrestrial habitat for GCN whilst the western intensively managed arable field compartment was assessed as providing sub-optimal resources for GCN. The fallow nature of the eastern arable field compartment provided a limited amount of suitable vegetation for GCN commuting, foraging and sheltering. Arable field margins were all assessed to provide optimal GCN commuting, foraging and sheltering habitat for GCN. All hedgerows, scattered trees and broadleaved plantation woodland, garden orchard, the dry ditch and scattered and dense/continuous scrub were assessed as providing suitable GCN commuting, foraging and sheltering habitat.
- 3.44 Table 4 provides a summary description and habitat suitability index (HSI) results for each pond for which a HSI could be undertaken. Access to pond P3 (approximately 360 m from the site boundary) was not possible at the time of survey.

Table 4: Summary of Pond Descriptions and HSI

Pond Number	Pond Description	Approximate Distance from Site	HSI
P1	Small pond was located within the western arable field compartment along the northern site boundary. The pond was a small shallow field edge pond and was heavily shaded and surrounded by scrub and outgrown hedgerow. No aquatic vegetation was present and the pond margins comprised very limited marginal vegetation.	Within site boundary	0.51 (Below Average)
P2	Medium sized pond located within and surrounded by mature willow trees. Pond was shaded and comprised heavy leaf litter. Limited amount of bankside grassy and ruderal vegetation. Surrounding habitat heavily vegetated by tall ruderal vegetation and dense bramble scrub.	Within site boundary	0.71 (Good)

- 3.45 Pond P1 was not identified during previous aquatic GCN presence/absence surveys undertaken in 2010 and 2011. Pond P1 was located c.435m (c.475m via suitable commuting habitat) from pond P2, comprised suitable commuting habitat including hedgerow and scattered scrub and comprised no major barriers to dispersal for GCN.
- 3.46 Pond P2 was located within the site boundary. Previous aquatic GCN presence/absence surveys undertaken in 2010 and 2011 have identified the presence of a 'medium' population size-class of GCN utilising the pond.
- 3.47 Pond P3 was located c.285m north of the site boundary (c.470m via suitable commuting habitat). Previous aquatic GCN presence/absence surveys undertaken in 2010 and 2011 have identified the presence of a 'medium' population size-class of GCN utilising the pond.

Bats

Trees

- 3.48 A single tree (T1) was identified as providing features suitable to support a 'low' bat roosting potential. Tree T1 was a mature English oak located along the southern site boundary within hedgerow H6 and comprised heavily mattered ivy with a diameter >c.50mm around the trunk.

Buildings

- 3.49 Building B1 was a single storey brick and stone-built bungalow with overlapping clay tiled cross-hipped roofs and a ridge. Attached to the eastern elevation of the bungalow was a single storey brick-built garage with an overlapping clay tiled gable roof with a single gable end, whilst a wooden constructed porch with a flat felt roof. Was present on the western elevation. Features of potential interest for bats included a single gable end, soffit and fascia boards, guttering and flashing. No roof void was present within the garage. Other structural features included windows and doors, skylights and a garage door.
- 3.50 A single potential bat access point was present which included a single uncovered gable vent located below the single gable apex on the garage. No potential bat access points were identified associated with the bungalow structure. The building had been renovated in the last two decades with new mortar filling all gaps associated with gables and eaves. No gaps in the roof tiles or ridges or missing tiles were additionally identified. Any gaps present between the fascia and soffit boards were considered too small for bat access, with gaps c.1-2mm in width. The chimney vents were covered by a fine mesh layer.

- 3.51 No roof void was present within the appending garage and access to survey the interior of the bungalow structure was not possible at the time of survey due to COVID-19. Due to the lack of bat access points associated with the main bungalow structure and the lack of roof void present within the appending garage, Building B1 was assessed as providing 'negligible' potential to support roosting bats. Previous survey work had not identified and noted building B1 to provide suitable bat roosting potential.
- 3.52 Building B2 was a single skinned cement panel pebble-dashed built garage with a single skinned asbestos corrugated gable roof with corrugated Perspex skylights. Features included gables and guttering. Potential bat access points included gaps above eaves and gable apexes. No roof void was present. Building B2 was assessed as providing a 'negligible' potential to support roosting bats. These findings were in keeping with previously undertaken survey work.

Commuting and Foraging

- 3.53 Arable land provided a sub-optimal commuting and foraging resource for bats. The site does however, include a number of suitable commuting and foraging habitat, which included standing water, hedgerow and hedgerow with trees, a dry ditch, scattered and dense/continuous scrub, scattered trees and broadleaved plantation woodland.
- 3.54 Previous bat activity surveys undertaken as part of the wider Himley Farm masterplan site boundary identified the presence of small numbers of common and widespread species, which included common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, noctule *Nyctalus noctule* and unidentified *Myotis* species. Previous bat activity surveys undertaken as part of the North West Bicester Development Area identified the additional presence of serotine *Eptesicus serotinus*, Leisler's bat *Nyctalus leisleri* and Nathusius' pipistrelle *Pipistrellus nathusii*. No Annex bat II species were identified across all previous surveys within the site and within wider application boundaries.

Badgers – Confidential, not to be released into the public domain.

- 3.55 No active badger setts were identified within the site or within a 30m radius of the site boundary.
- 3.56 A number of inactive setts, some currently inhabited by rabbit, were however, identified on site and within 30m of the site boundary.
- 3.57 TN1 – TN3 were identified as inactive main setts. TN1 was located c.5m north of the site boundary located within an outgrown hedgerow with scattered scrub and comprised approximately 10 inactive holes. TN2 was located within the site boundary and was located within the banks of a dry ditch and also comprised approximately 10 inactive holes. The sett exhibited evidence of partial use by rabbits *Oryctolagus cuniculus*, with rabbit droppings observed adjacent to the entrance of a small number of holes. TN3 was located c.8m north-east of the site boundary in a shaded area between a hedgerow and a ditch. The sett comprised approximately 14 inactive holes. The sett is now utilised as an active rabbit warren, with a number of rabbits observed entering a number of holes. This sett had previously been identified on consultation records received.
- 3.58 TN4 was identified as an inactive subsidiary sett of TN1. It was located on the site boundary within the hedgerow ditch bank of hedgerow H4 and comprised approximately four inactive holes.
- 3.59 TN5 was identified as an inactive annex sett and was located within the site boundary within the hedgerow and ditch bank of H4. The sett comprised approximately five inactive holes.

- 3.60 TN6 - TN9 were also identified as inactive outlier setts. TN6 was located on the site boundary along hedgerow H2 and comprised approximately five inactive holes. TN7 was located within the site boundary within the hedgerow/ditch bank of H4 and comprised approximately five inactive holes. TN8 and TN9 were located along the site boundary within the hedgerow/ditch bank of H4 and comprised approximately four and two inactive holes respectively.
- 3.61 TN10 – TN12 and TN14 were identified as rabbit warrens located either within the site or along the site boundary within the hedgerow/ditch banks of H4.
- 3.62 No badger setts had been previously recoded within the site boundary during the 2010 and 2014 surveys. These setts thus have been established since 2014.

Reptiles

- 3.63 The majority of habitat present within the site (arable) provided sub-optimal commuting, foraging and sheltering habitat for reptile species. Suitable habitat for these species was limited to scattered and dense/continuous scrub, hedgerow, arable field margins, broadleaved plantation woodland and standing water.
- 3.64 There are historical records for grass snake *Natrix helvetica* located at Himley Farm and previous presence/absence reptile surveys undertaken in 2010 targeted suitable reptile habitat identified within the site boundary, as well as habitat within the wider Himley Village masterplan site boundary and wider North-West Bicester Masterplan site boundary. During these surveys, no reptiles were identified within this site boundary. During other ecological surveys, incidental observations of common lizards *Zootoca vivipara* were however identified within farmland habitat surrounding Himley Farm. Reptile surveys were also undertaken in 2012 on land located adjacent east of the site in order to inform a planning application (17/01090/OUT), these surveys identified the presence of a 'low' population of common lizard utilising the site.

Birds

- 3.65 Hedgerows, hedgerows with trees, broadleaved trees, scattered trees, broadleaved plantation woodland and scrub all provided suitable woody breeding habitat for a range of nesting species of birds. Given the c.13.4ha size of the western arable field compartment, this could provide potential suitable ground nesting habitat for ground nesting bird species. Given the lack of any recent management, the c.6.9ha eastern arable field compartment could also provide a potential suitable habitat for ground nesting birds.
- 3.66 Breeding bird surveys were undertaken in 2011 as part of the wider Himley Farm masterplan site boundary. Surveys identified the confirmed breeding or probably breeding of four species of Birds of Conservation Concern Red Listed (BoCC Red). Species included skylark *Alauda arvensis*, linnet *Linaria cannabina*, song thrush *Turdus philomelos* and yellowhammer *Emberiza Citrinella*. Surveys additionally identified the confirmed or possible breeding of seven BoCC Amber listed species. These included dunnock *Prunella modularis*, bullfinch *Pyrrhula pyrrhula*, reed bunting *Emberiza schoeniclus*, whitethroat *Sylvia communis*, mallard *Anas platyrhynchos*, stock dove *Columba oenas* and swallow *Hirundo rustica*.
- 3.67 The arable field compartments and woody vegetation present within or bounding the site provide potential foraging opportunities for a range of overwintering species of birds.

- 3.68 Wintering bird surveys were undertaken in 2011 as part of the wider Himley Farm site boundary. Surveys identified the moderate number of the following species of birds utilising the site; skylark, redwing *Turdus iliacus* and fieldfare *Turdus pilaris*. Other species of birds which were recorded in low to moderate number included mallard, linnet, reed bunting, kestrel *Falco tinnunculus*, marsh tit *Poecile palustris*, house sparrow *Passer domesticus*, grey partridge *Perdix perdix*, green woodpecker *Picus viridis*, dunnock, bullfinch, starling *Sturnus vulgaris* and song thrush.

4.0 DISCUSSION, RECOMMENDATIONS AND CONCLUSIONS

Sites of Nature Conservation Value

- 4.1 No statutory or non-statutory designated sites are present within or adjacent to the site boundary. Oxford Meadows SAC was located c.14.4km south-west of the site. No adverse impacts on the nature conservation interest of the site are anticipated during both the construction and operational phases of the development. A number of suitable buffers are present between the site and the designation, including major 'A' roads and a single motorway. Furthermore, the site is not hydrologically linked to the designated area and is almost 15 km distant, as such, no hydrological or recreational impact on the nature conservation interest of the site is foreseen.
- 4.2 Ardley Cutting and Quarry SSSI was located c.1.4km north of the site. The site is buffered from the designation by a number of arable and grassland fields and hedgerows and as such, given the distance, considered suitable buffers that adverse impacts on the nature conservation interest of the site is unlikely. There are no public rights of way (PROW) which link the site boundary to the designation and the public access into the designation boundary is prohibited. This is confirmed by the SSSI Impact Risk Zone, which does not consider residential development at this distance from the SSSI to require consultation with Natural England. No impacts on the nature conservation interest of the designation is anticipated during the operational phase of the site.
- 4.3 Ardley Trackways SSSI was not designated for its nature conservation interest. No nature conservation impacts will therefore occur during the construction and operational phase of the site.
- 4.4 Bure Park LNR was located c.1.4km north-east of the site. The site is buffered from the designation by plantation woodland, the adjacent development located to the east of the site, an 'A' road and residential development. Furthermore, there are currently no direct PROW leading from the site to the designation. No waterbodies present within or adjacent to the site are direct or indirect tributaries of the waterbodies located within the LNR. No impacts on the nature conservation interest of the designation are anticipated during the construction and operational phases of the development.
- 4.5 Shakespeare Drive LWS was located c.840m east of the site. No impact on the nature conservation interest of the site is anticipated during both the construction phase and the operational phase of development. There are no direct or indirect tributaries leading from the site to the designation and the designation is buffered from the site by residential development.

Habitats

- 4.6 The degree to which habitats receive consideration within the planning system relies on a number of mechanisms, including:
- Inclusion within a specific policy, for example veteran trees, ancient woodland and linear habitats within the National Planning Policy Framework (NPPF)¹⁶;
 - A non-statutory site designation (e.g. LWS);
 - Habitats considered as Habitats of Principal Importance for the conservation of biodiversity as listed within Section 41 of the NERC Act 2006;

¹⁶ <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

- Habitats identified as being a Priority Habitat within the local Biodiversity Action Plan (Oxfordshire BAP).
- 4.7 Habitat identified during the survey which falls within the above listed categories are hedgerows, orchard and ponds.
- 4.8 No material change in habitat between the 2010 and 2020 phase 1 habitat survey was identified, albeit from a single pond (P1) identified, with habitat dominated by arable land and boundary vegetation dominated by hedgerow. The management of the eastern arable compartment has since changed from intensively managed to fallow, with no recent management identified. During the 2014 phase 1 survey, the western field compartment had been seeded to improved grassland, however, as noted in the 2020 survey, this is now intensively managed arable land. No material change in the management of the hedgerows has been identified, with the majority of the hedgerows unmanaged.
- 4.9 Habitat offering negligible ecological value includes arable land, hardstanding, buildings, gardens and fence. Loss of these habitats will not adversely impact local biodiversity.
- 4.10 Habitat offering a low ecological value at site level includes improved grassland, dry ditch, dense/continuous and scattered scrub. Loss of these limited areas of low ecological value habitat is to be mitigated for within the site green infrastructure (detailed below).
- 4.11 Habitats offering higher ecological value includes scattered trees, broadleaved plantation woodland, orchard, standing water (pond), broadleaved trees and hedgerow.
- 4.12 All hedgerows in the proposed development areas comprise over 80% native woody species and are therefore classified as a Habitat of Principal Importance and the local BAP. Hedgerows H2 and H3 were assessed as 'important hedgerows' under the wildlife and landscape criteria of the Hedgerows Regulations 1997. Hedgerows H2, H3 and H7 were additionally identified as 'species rich' hedgerows.
- 4.13 All hedgerows and trees that are to be retained should be suitably protected during construction activities i.e. working methods should adhere to standard best practice guidance. This would include BS5837¹⁷.
- 4.14 The latest development proposals have provided large areas of green infrastructure (GI) and public open space (POS) throughout the site, as well as the retention of the majority of habitat providing higher ecological value. The on-site ponds are to be retained, as well as the majority of the broadleaved tree line located on the eastern site boundary. All broadleaved plantation woodland and scattered trees are to be retained. All of hedgerow H1, albeit from a single small section to facilitate access to an additional phase of development, is to be retained. All of hedgerow H2 is to be retained albeit from two small sections to be lost in order to facilitate access to an additional phase of development. Albeit from small sections in order to facilitate development access, all of hedgerow H3 is to be retained. Hedgerow H4 is to be fully retained albeit from two small sections which are to be removed to facilitate site roads. A small section of hedgerow H5 is likely to be removed to facilitate wider site access than that currently. All of hedgerow H6 and H7 is to be retained. In order to mitigate for the loss of hedgerow, new native species hedgerow at least totalling that lost should be established into the sites GI/POS. Approximately 630m of native

¹⁷ BS 5837:2012 Trees in relation to design, demolition and construction. Recommendations.

species hedgerow will be established along the southern site boundary according to the latest proposals.

- 4.15 Retained habitats offering higher ecological value including hedgerow, pond and broadleaved tree line are to be buffered from development by GI and POS. Other habitats which are to be incorporated include native species scrub/shrub/buffer planting, species-rich meadow grassland, native species broadleaved tree planting. Other habitats which should be incorporated include native species broadleaved tree planting. Attenuation basin facilities and a series of swales are additionally to be established which will include meadow wetland grassland and marginal planting.

Fauna

- 4.16 Principal pieces of legislation protecting wild species are Part 1 of the Wildlife and Countryside Act 1981 (*as amended*) (WCA) and the Conservation of Habitats and Species Regulations 2017 (*as amended*). Some species, for example badgers, also have their own protective legislation (Protection of Badger Act 1992). The impact that this legislation has on the Planning system is outlined in ODPM 06/2005 Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System.
- 4.17 The presence of protected species is a material consideration in any planning decision, it is essential that the presence or otherwise of protected species, and the extent to which they are impacted by proposals is established prior to planning permission being granted. Furthermore, where protected species are present and proposals may result in harm to the species or its habitat, steps should be taken to ensure the long-term protection of the species, such as through attaching appropriate planning conditions.
- 4.18 In addition to protected species, there are those that are otherwise of conservation merit, such as Species of Principal Importance for the purpose of conserving biodiversity under the NERC Act 2006. These are recognised in the NPPF, which advises that when determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying a set of principles including:
- If significant harm to biodiversity resulting from a development cannot be avoided....., adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
 - Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.
- 4.19 The implications for the proposed development that various species identified from the desk study and field survey, or those that are otherwise thought reasonably likely to occur, are outlined below.

Great Crested Newt

- 4.20 Previous surveys have identified a 'medium population' of GCN utilising ponds P2 and P3. No aquatic GCN presence / absence surveys have been undertaken in order to establish the presence/absence of GCN utilising the on-site pond (P1).
- 4.21 In order to ensure compliance with the relevant legislation, this site phase will be entered into a district licencing scheme which will ensure the anticipated impacts on this species will be

adequately mitigated by targeting habitat creation to areas offsite which will maximise the positive impact on GCN conservation on a population level.

Bats

- 4.22 All UK species of bats and their roosts are listed on the Conservation of Habitats and Species Regulations 2017 (*as amended*), making it illegal to deliberately disturb any such animal or damage / destroy a breeding site or roosting place of any such animal. Bats are also afforded full legal protection under Schedule 5 of the Wildlife and Countryside Act 1981 (*as amended*). Under this legislation it is illegal to recklessly or intentionally kill, injure or take a species of bat or recklessly or intentionally damage or obstruct access to or destroy any place of shelter or protection or disturb any animal whilst they are occupying such a place of shelter or protection. Some bat species, including soprano pipistrelle, noctule and brown long-eared bat are also Species of Principal Importance under the NERC Act.

Roost Assessment

- 4.23 Tree T1 was identified to provide a 'low' potential to support roosting bats. Tree T1 is to be retained and buffered as part of development with a swale established adjacent to tree T1. No built development present adjacent to tree T1. As a result, tree T1 will be unaffected by proposals and in accordance with Table 2, no further survey work is therefore required.
- 4.24 Buildings B1 and B2 were assessed as providing 'negligible' bat roosting potential. The presence of a bat roost within buildings has therefore not been identified as a statutory constraint to development.
- 4.25 As an enhancement, it is recommended that a range of bat boxes are established on suitably retained trees and/or onto new dwellings.

Foraging / Commuting Habitat

- 4.26 The vast majority of habitat comprised unsuitable commuting and foraging habitat with such suitable habitat was limited to field boundaries, including pond, hedgerow, broad-leaved tree line and scrub, scattered trees and broadleaved plantation woodland.
- 4.27 Previous activity survey work undertaken at the site and across the wider site boundary comprised low numbers of common and widespread species. No material change in habitat has been identified between the 2020 survey and the 2010 and 2011 phase 1 habitat and bat surveys. As such, the abundance and composition of species of bats and the commuting and foraging value of the site to bats has unlikely to have significantly changed.
- 4.28 Proposals include the retention of all ponds, scattered trees and broadleaved plantation woodland and the vast majority of hedgerow. The loss of a small number of minor sections of hedgerow is unlikely to create a significant impact on commuting and foraging bats. Retained habitat of value to commuting and foraging bats is to be buffered from development by GI/POS, which will include scrub/shrub/buffer planting and species-rich meadow grassland.
- 4.29 Proposals additionally include attenuation basin and swale habitat, scrub and species rich grassland planting and broad-leaved tree planting throughout the development.
- 4.30 It is recommended that an appropriate sensitive lighting scheme is implemented to retain dark corridors along retained and created habitat, especially around the boundaries of the development.

Where artificial lighting cannot be avoided the lighting scheme will be designed with reference to the Bat Conservation Trust and Institute of Lighting Professionals guidance¹⁸. Lighting considerations which are recommended to be implemented during construction and incorporated into the development in order to ensure minimal light spill from the site include:

- During the construction period no artificial lighting should be used at night in the vicinity of the brook or field perimeter habitats
- The lighting scheme should ensure lighting is directed to where it is needed, avoiding light spillage, particularly along the woodland habitats, hedgerows / scrub lines, wildflower grassland and waterbodies
- The lighting scheme should incorporate LED luminaires as these have a sharp cut-off, lower intensity, good colour rendition and dimming capability. All luminaires should lack UV elements when manufactured. Metal halide, fluorescent sources should not be used
- Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats; and
- Security lighting on properties backing on to sensitive habitats such as hedgerows, trees or waterbodies will be low wattage (<70W)¹⁹ motion censored lights on short (1min) timers. These should be provided on any properties (along the site boundaries) at construction to dissuade future homeowners from installing unsuitable lighting which could adversely impact bats.

Badger

- 4.31 Badgers are a widespread species that are protected from harm and cruelty by the Protection of Badgers Act 1992.
- 4.32 No active setts were identified within the site or within a 30m radius of the site (where accessible). A number of inactive setts, some now utilised by rabbits and some unutilised were identified. As long as these setts remain inactive by badgers, these will not pose a statutory constraint to development.
- 4.33 Consequently, badgers have not been identified as a statutory constraint to development, but it is recommended that an updated badger survey should be undertaken prior to works commencing on-site.

Reptiles

- 4.34 All British reptiles are protected from killing and injury under the Wildlife and Countryside Act 1981 (*as amended*) and are listed as Species of Principal Importance for the conservation of biodiversity under Section 41 of the NERC Act, indicating that public bodies, such as the Local Planning Authority, have a duty to have regard to the conservation of these species.
- 4.35 Reptile presence / absence surveys undertaken previously at the site identified no reptiles present. Incidental and historical records however have identified common lizard and grass snake within the wider masterplan site.

¹⁸ Bat Conservation Trust & Institute of Lighting Professionals (ILP) 2018. *Guidance Note 8: Bats and artificial lighting in the UK*. Bats and the Built Environment Series.

Bat Conservation Trust. 2011. *Statement on the Impact and Design of Artificial Light on Bats*.

Institute of Lighting Professionals. 2011. *Guidance notes for the reduction of Obtrusive Light*.

¹⁹ Stone, E.L. 2013. *Bats and lighting: Overview of current evidence and mitigation*.

- 4.36 No material change in habitat was identified between the reptile surveys and the 2020 phase 1 survey. The vast majority of habitat present within the site provided sub-optimal reptile habitat in the form of arable land. The vast majority of the limited habitat providing suitable reptile commuting, foraging and sheltering resources for reptiles in the form of hedgerow and scrub is to be retained with these features buffered from development with suitable reptile commuting and foraging habitat, including scrub planting and species-rich grassland established.
- 4.37 Whilst the likely presence of reptiles is considered to be low, the site clearance works of small areas of suitable habitat do have the potential to result in the accidental killing or injuring of reptile species. Therefore, as a precaution, measures for all site clearance works of suitable habitats will be undertaken under a working method statement and ecologist supervision (see Section 5).

Birds

- 4.38 All wild bird species are protected while nesting by the Wildlife and Countryside Act 1981 (*as amended*). This legislation protects wild birds and their eggs from intentional harm, and makes it illegal to intentionally take, damage, or destroy a wild bird nest while it is in use or being built.
- 4.39 The site provided suitable woody vegetation to support a range of nesting bird species and the arable compartments had potential to support ground nesting and overwintering birds.
- 4.40 No material change in habitat has occurred in comparison with the 2020 phase 1 survey and bird surveys. The management of the eastern arable field compartment however has since changed from intensively managed to fallow arable. As a result, this has potentially created a more suitable habitat for ground nesting and overwintering birds.
- 4.41 To avoid disturbance to nesting birds any vegetation clearance should be undertaken prior to the bird-breeding season (i.e. avoiding March to August inclusive) to minimise the risk of disturbance to nesting birds. If this is not possible, habitats will be checked prior to removal by an experienced ecologist. If active nests are identified, the nest site(s) will be left untouched and suitably buffered from works until all birds have fledged. Specific advice will be provided by the ecologist prior to undertaking the clearance.
- 4.42 The loss of suitable nesting and foraging habitat will be mitigated via incorporation of standard broad-leaved tree planting, species rich meadow grassland establishment, new native species rich hedgerow planting and native species scrub/shrub/buffer planting within the GI/POS of the site.
- 4.43 It is recommended that a range of bird boxes be provided throughout the site on suitable retained trees to provide enhanced nesting opportunities for local bird species. These should include a mixture of small hole (26mm and 32mm) designs and open fronted boxes.

5.0 WORKING METHOD STATEMENT (REPTILES)

- 5.1 The following sections outline the precautionary measures associated with clearance of suitable reptile habitat from the development site including a detailed description of the passive displacement method to be incorporated.
- 5.2 The proposed development will lead predominately to the loss of arable land with the exception of arable field margins and minor sections of hedgerow to facilitate site access.
- 5.3 All common reptile species are partially protected under Schedule 5 (Sections 9(1) and 9(5)) of the Wildlife and Countryside Act 1981 (as amended). This legislation protects these animals from:
- Intentional killing and injury;
 - Selling, offering for sale, possessing or transporting for the purpose of the sale or publishing advertisements to buy or sell a protected species.
- 5.4 Where these animals are confirmed as present on land that is to be affected by development guidance recommends that:
- The animals should be protected from injury or killing during construction operations;
 - Mitigation should be provided to maintain the conservation status of the species locally.
- 5.5 Grass snakes and common lizard are protected under the Wildlife and Countryside Act 1981 (*as amended*) against reckless / intentional killing and injury. In the absence of mitigation, site clearance works have the potential to result in the killing or injury of reptiles which, as a result of the protection afforded to them, will need to be avoided.

Working Method Statement

- 5.6 To avoid killing / injuring of reptiles during site clearance works, operations within areas of suitable habitat (field margins and hedgerow) should be completed under a working method statement, under supervision of a suitably qualified ecologist.
- 5.7 Depending on the programme of works the vegetation clearance should adhere to the following precaution measures:
- *Grassland Habitats & Vegetated Field margins* - Vegetation clearance undertaken in mid-March to September should involve the passive displacement of reptiles. This work should only be undertaken during suitable weather conditions with temperatures above 10°C and with no rain, when reptiles will be active. Field margins and grassland will first be directionally strimmed from the centre of the working areas in the direction of the retained boundary / off-site habitats. Any areas of habitat to be retained will be left uncut. The vegetation will be given two cuts, the first to 200mm and the second 1-2 hours later to 50mm. All arisings will be removed from the working area to prevent potential areas of refugia from being used by reptiles moving through the area. These areas will be regularly managed so unsuitable for reptile to prevent suitable reptile habitat forming during works.
 - *Hedgerows* – To be undertaken March – October. Prior to site preparation works, Hedgerows, scrub, bracken and trees to be lost to be strimmed / coppiced to ground level prior to removal. Strimming would involve passive displacement methods outlined above. Root removal will be undertaken a minimum of five days after coppicing via a destructive search under the supervision of the qualified ecologist outside of the hibernation period (avoiding Nov-Feb). All

arising's will be removed from the working areas to prevent creation of potential areas of refugia from being used by reptiles moving across the area. Any areas of existing suitable refuge within the working areas such as discarded items will additionally be removed by hand prior to site preparation works.

- 5.8 Timings will take account of statutory constraints in relation to nesting birds with the works programmed outside of the breeding season (as detailed in the bird section above). Areas of proposed green infrastructure will incorporate suitable habitat for reptiles around the periphery of the site.

APPENDIX A: BOTANICAL SPECIES LIST

Abundance is described on the DAFOR scale.

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare, LD = Locally Dominant, LA = Locally Abundant, LF = Locally Frequent, LO = Locally Occasional, afm = arable field margin only, fa = fallow arable only

Arable

Common Name	Scientific Name	DAFOR
Bent species	<i>Agrostis sp</i>	R / O fa
Bristly oxtongue	<i>Helminthotheca echioides</i>	R / O fa
Burdock species	<i>Arctium sp.</i>	R fa
Canadian fleabane	<i>Erigeron canadensis</i>	O fa
Cleavers	<i>Galium aparine</i>	R afm
Cock's-foot	<i>Dactylis glomerata</i>	F afm
Common field-speedwell	<i>Veronica persica</i>	R
Common nettle	<i>Urtica dioica</i>	R afm
Common ragwort	<i>Jacobaea vulgaris</i>	O fa
Cow parsley	<i>Anthriscus sylvestris</i>	R afm
Creeping thistle	<i>Cirsium arvense</i>	R afm
Cut-leaves crane's-bill	<i>Geranium dissectum</i>	R fa
Dandelion	<i>Taraxacum officinale</i>	R fa
Dock species	<i>Rumex sp.</i>	R fa
Dove's-foot crane's-bill	<i>Geranium molle</i>	R afm
False oat-grass	<i>Arrhenatherum elatius</i>	F afm
Garlic mustard	<i>Alliaria petiolata</i>	R fa
Germander speedwell	<i>Veronica chamaedrys</i>	R
Greater plantain	<i>Plantago major</i>	R / R fa
Groundsel	<i>Senecio vulgaris</i>	R
Hogweed	<i>Heracleum sphondylium</i>	R fa
Meadow buttercup	<i>Ranunculus acris</i>	R
Mugwort	<i>Artemisia vulgaris</i>	R fa
Nipplewort	<i>Lapsana communis</i>	R fa
Oxeye daisy	<i>Leucanthemum vulgare</i>	R fa
Perennial rye-grass	<i>Lolium perenne</i>	R afm
Shepherd's purse	<i>Capsella bursa-pastoris</i>	R fa
Spear thistle	<i>Echinops sphaerocephalus</i>	R afm
St. John's-wort sp	<i>Hypericum sp.</i>	R fa
Sun spurge	<i>Euphorbia helioscopia</i>	R fa
Unidentified winter crop	-	D
White clover	<i>Trifolium repens</i>	R
Yarrow	<i>Achillea millefolium</i>	R fa

Improved Grassland

Common Name	Scientific Name	DAFOR
Bent species	<i>Agrostis sp</i>	F
Bristly oxtongue	<i>Helminthotheca echioides</i>	R
Cock's-foot	<i>Dactylis glomerata</i>	F
Common daisy	<i>Bellis perennis</i>	R
Common nettle	<i>Urtica dioica</i>	R
Common ragwort	<i>Jacobaea vulgaris</i>	R
Creeping buttercup	<i>Ranunculus repens</i>	R

Creeping thistle	<i>Cirsium arvense</i>	R
Dock species	<i>Rumex sp.</i>	R
Dove's-foot crane's-bill	<i>Geranium molle</i>	R
Great willowherb	<i>Epilobium hirsutum</i>	R
Greater plantain	<i>Plantago major</i>	R
Meadow buttercup	<i>Ranunculus acris</i>	R
Perennial ryegrass	<i>Lolium perenne</i>	F
Red deadnettle	<i>Lamium purpureum</i>	R
Red fescue	<i>Festuca rubra</i>	R
Ribwort plantain	<i>Plantago lanceolata</i>	R
Smooth meadow-grass	<i>Poa pratensis</i>	R
Spear thistle	<i>Echinops sphaerocephalus</i>	R
White clover	<i>Trifolium repens</i>	R

APPENDIX B: GCN HABITAT SUITABILITY INDEX FOR PONDS WITHIN 500M

	SI -1	SI -2	SI -3	SI -4	SI -5	SI -6	SI -7	SI -8	SI -9	SI -10			
Pond Number	Geographical Location	Pond Area	Pond Drying	Water Quality	Shade	Fowl	Fish	Ponds	Terrestrial Habitat	Macrophytes	HSI score	Pond Suitability	Predicted Presence
1	1	0.05	0.5	0.33	0.9	1	1	0.55	1	0.3	0.51	Below Average	0.2
2	1	1.00	1	0.33	0.9	1	0.67	0.55	1	0.3	0.71	Good	0.79

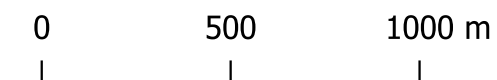
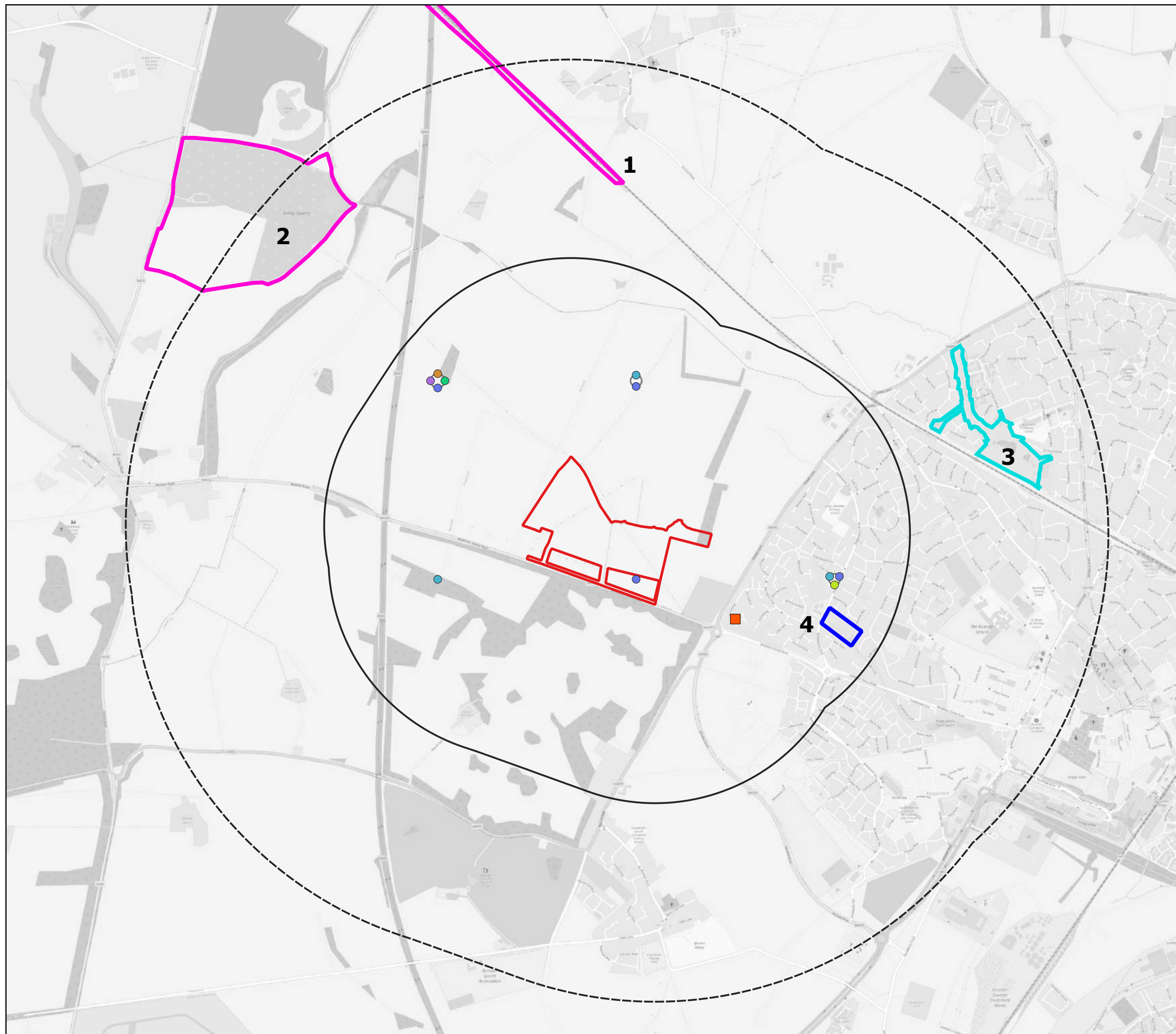
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Key:

- Site Boundary
- Site of Special Scientific Interest (SSSI)
- Local Nature Reserves (LNR)
- Local Wildlife Sites (LWS)
- Gadwall
- Kestrel
- Lapwing
- Red Kite
- Ring Ouzel
- Skylark
- West European Hedgehog

- 1 - Ardley Cutting and Quarry (SSSI)**
- 2 - Ardley Trackways (SSSI)**
- 3 - Bure Park (LNR)**
- 4 - Shakespeare Drive (LWS)**



fpcr

client
Countryside Properties Ltd.

project
Himley Village,
Bicester

drawing title
**SITE LOCATION & CONSULTATION RESULTS
PLAN**

scale @ A3
1:20000

drawing / figure number
Figure 1

drawn
MPG/CAG



















issue
25/5/2021

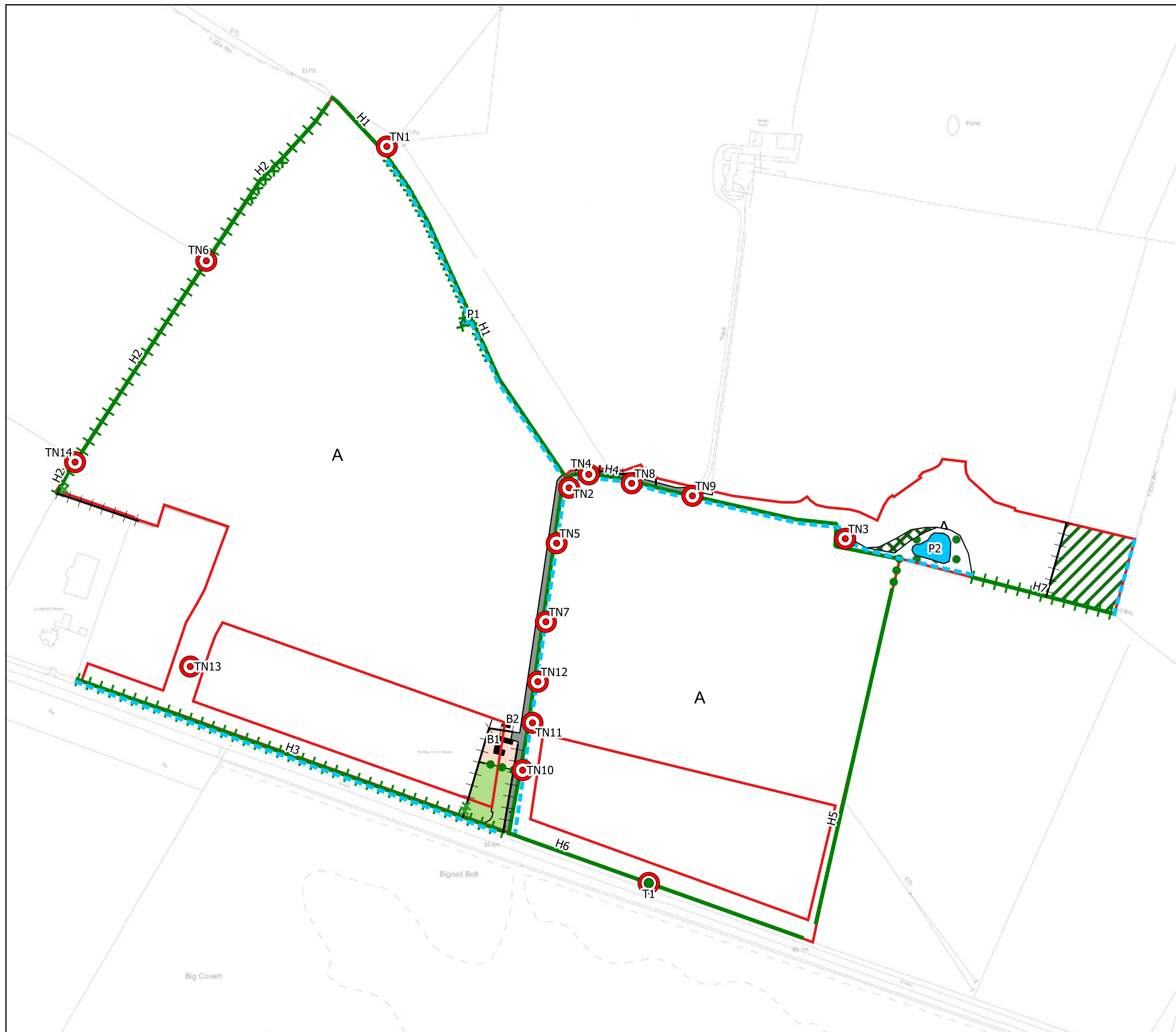
rev
Rev C

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Key:

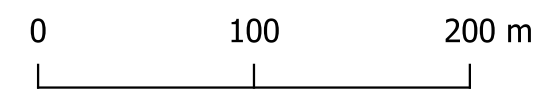
-  Site Boundary
-  Broadleaved Parkland/scattered trees
-  Broadleaved woodland - plantation
-  Buildings
-  Built Environment: Buildings/hardstanding
-  Built Environment: Gardens (lawn and planting)
-  Cultivated/disturbed land - arable
-  Improved grassland
-  Garden orchard
-  Scrub - dense/continuous
-  Standing water
-  Broadleaved trees
-  Intact hedge
-  Hedge with trees
-  Fence
-  Dry ditch
-  Scrub - scattered
-  Tree with bat potential
-  Target note

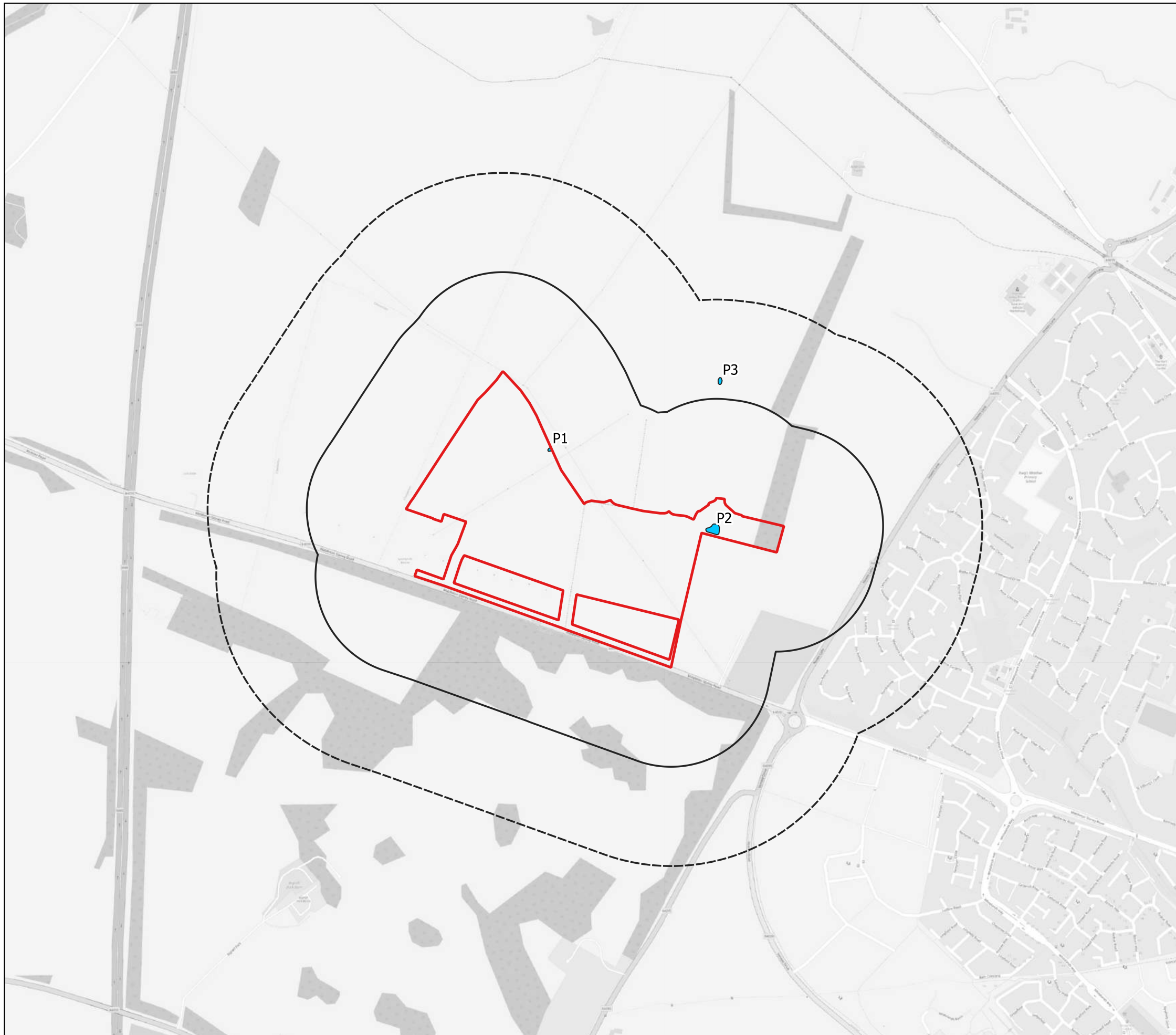


client
Countryside Properties Ltd.
project
Himley Village,
Bicester
drawing title
PHASE 1 HABITAT PLAN

scale @ A3
1:3500
drawing / figure number
MPG/CAG
issue
26/5/2021

Figure 2 **Rev C**





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Key:

- Site Boundary
- Waterbody
- 250m Site Boundary Buffer
- 500m Site Boundary Buffer



client
Countryside Properties Ltd.
project
Himley Village,
Bicester
drawing title
WATERBODY LOCATION PLAN

scale @ A3
1:10000
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drawing / figure number
Figure 3

rev
Rev C

