



**Land Adjacent to 15 Waterhouse Lane**  
Preliminary Ecological Appraisal Report

## Document Control

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# 1. Introduction

## Background

- 1.1. Elton Ecology Ltd were commissioned by Mr David Fletcher to conduct a Preliminary Ecological Appraisal (PEA) of the site known as Land Adjacent to 15 Waterhouse Lane.
- 1.2. This Preliminary Ecological Appraisal Report (PEAR) has been prepared by Tim Elton BSc (Hons) MCIEEM. Tim has professional experience in ecological consultancy since 2013, including Protected Species Survey, Extended Phase 1 Habitat Survey and report writing. Tim is trained in a wide variety of protected species survey, including holding Natural England class licences for bats, barn owl *Tyto alba*, great crested newt *Triturus cristatus* (level 1), and hazel dormouse *Muscardinus avellanarius* (level 1). Tim is trained in botanical species identification, UKHab assessment, and designing Biodiversity Net Gain.

## Site description

- 1.3. The site comprises areas of grassland, scrub and trees set within a sub-urban environment. The site is located adjacent to 15 Waterhouse Lane, Gedling, Nottingham NG4 4BP (Figure 1: Site Location Plan) (central OS grid reference: SK 62224 42649).

## Development Proposals

- 1.4. The development proposals include the construction of a residential dwelling with car port, associated access, hard and soft landscaping.
- 1.5. Relevant documents used to inform the assessment include:
  - Block Plan Proposed. Waterhouse Lane Private Dwelling. DWG No. 3124(08)003. Dated 14/07/23. (Rayner Davies Architects, 2023)
  - Site Plan Proposed. Waterhouse Lane Private Dwelling. DWG No. 3124(08)004. Dated 14/07/23. (Rayner Davies Architects, 2023)
  - Topographical Survey. Land Adjacent to 15 Waterhouse Lane. DWG 4630ia. Dated 17/02/23. (Survey 3, 2023).

## Report Purpose and Scope

- 1.6. With reference to the Development Proposals, the purpose and scope of the present report is to:
  - Identify key ecological constraints associated with the project.
  - Identify avoidance, mitigation or compensation measures likely to be required in accordance with the mitigation hierarchy.
  - Identify any additional surveys that may be required to inform the above.
  - Identify likely opportunities to deliver ecological enhancement.

## Planning Policy and Legislation

- 1.7. A summary of biodiversity planning policies and wildlife legislation relevant to the site is provided in Appendix 3: Planning Policy and Legislation Summary. The relevant planning policy and legislation includes:
  - National Planning Policy Framework 2023.

- Government Circular ODPM 06/05 Biodiversity and Geological Conservation.
  - The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.
  - The Wildlife and Countryside Act 1981 (as amended).
  - Natural Environment and Rural Communities (NERC) Act 2006 – Habitats and species of principal importance.
  - The Hedgerow Regulations 1997;
  - Protection of Badgers Act 1992; and
  - The Wild Mammals (Protection) Act 1996 (as amended).
- 1.8. Badgers are afforded legal protection under the Protection of Badgers Act 1992, by Schedule 6 of the Wildlife and Countryside Act 1981 (as amended) and by the Animal Welfare Act 2006.
- 1.9. The Protection of Badgers Act 1992 defines a sett as “any structure or place which displays signs indicating current use by a badger”. The Protection of Badgers Act 1992 makes an offence to:
- Wilfully kill, injure or take a badger, or attempt these actions.
  - Treat a badger cruelly.
  - Interfere with a badger sett.
  - Possess or control a live badger.
  - Mark or ring a badger.

#### *Badger*

- 1.10. A person is guilty of an offence if, except as permitted by or under the Protection of Badgers Act 1992, they interfere with a badger sett including by:
- [a] Damaging a badger sett or any part of it.
  - [b] Destroying a badger sett.
  - [c] Obstructing access to, or any entrance of, a badger sett.
  - [d] Causing a dog to enter a badger sett.
  - [e] Disturbing a badger when it is occupying a badger sett, whether intended or reckless.
- 1.11. Natural England, (2009) defines “to disturb” as
- To agitate and destroy (quiet etc);
  - To break up the quiet, tranquillity;
  - To stir up, trouble, disquiet, to agitate; to unsettle;
  - To agitate mentally;
  - To interfere with the settled course of operations.

- 1.12. Natural England (2011) states that badger tunnels can extend 20m from the entrance holes and are located between 0.2 and several metres deep. Excavation work and heavy machinery should be kept away from where it could result in damage to the sett or disturbance to any badger occupying the sett unless a Natural England mitigation licence is secured.
- 1.13. Where impacts to badgers such as disturbance cannot be avoided, a Natural England mitigation licence must be obtained for the site to proceed lawfully, informed by an appropriate survey effort and mitigation strategy.
- 1.14. A summary of the key local planning policy and other relevant documents is provided in Table 1 below.

*Table 1 Key Local Planning Policy and Relevant Documents*

Document	Relevance
Broxtowe Borough, Gedling Borough, Nottingham City. Aligned Core Strategies Part 1 Local Plan. Adopted September 2014.	Does not include mandatory biodiversity net gain.  Policy 16 Green Infrastructure, Parks and Open Space: Requires that existing and potential Green Infrastructure corridors and assets are protected and enhanced.  Policy 17 Biodiversity: Includes provision of new biodiversity features, improving existing biodiversity features wherever appropriate, and ensuring that fragmentation of the Green Infrastructure network is avoided. Protecting, restoring, expanding and enhancing existing areas of biodiversity interest, including areas and networks of habitats and species listed in the UK and Nottinghamshire Biodiversity Action Plans.
Nottinghamshire Biodiversity Action Plan	Identifies priority wildlife habitats and species that are a local priority for protection.  Includes habitat action plans for hedgerows, certain types of woodland and grassland, ditches, rivers and streams,  Includes species action plans for bats, swifts, song thrush and hedgehog.

## 2. Methodology

### Assessment

- 2.1. The present assessment has been carried out with reference to best practice guidelines for Preliminary Ecological Appraisal provided by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017).

### Personnel

- 2.2. The Extended UKHab Habitat Survey, Badger Survey & Badger Camera Monitoring was carried out by TE BSc (Hons) MCIEEM. Tim has over 10 years of professional experience in ecological consultancy, including Protected Species Survey, Extended Phase 1 Habitat Survey and report writing. Tim is experienced and trained in a wide variety of protected species survey, including badger, and holds Natural England class licences for bats (Level 2 Licence CL18), barn owl *Tyto alba*, great crested newt *Triturus cristatus* (level 1), and dormice *Muscardinus avellanarius* (level 1). Tim is trained in botanical species identification and habitat classification.

### Desk Study

- 2.3. The sources of information and study areas of the desk study data are provided in Table 2.

Table 2: Desk study sources and areas

Feature		Study Area	Data Source	Date of Search
Designated sites of nature conservation	International (e.g. Special Area of Conservation, Special Protection Area, and Ramsar)	5 km radius of the site boundary	UK Government MAGIC <sup>1</sup> website	17 <sup>th</sup> July 2023
	National (e.g. Site of Special Scientific Interest (SSSI), SSSI Impact Risk Zones (SSSI IRZ)), Local Nature Reserves, National Nature Reserves	2 km radius of the site boundary		17 <sup>th</sup> July 2023
Non-Statutory Designated Sites, Protected/ Notable Species & Invasive Non-Native Species		1 km radius of the centre of the site	Nottinghamshire Biological and Geological Record Centre	8 <sup>th</sup> May 2023
Granted Natural England Mitigation Licences		2 km radius of the site boundary	UK Government MAGIC website	17 <sup>th</sup> July 2023
Natural England Ancient Woodland Inventory		Site & 1 km radius of the site boundary		17 <sup>th</sup> July 2023
Natural England Priority Habitat Inventory		Site & 1 km radius of the site boundary		17 <sup>th</sup> July 2023

<sup>1</sup> Multi-agency Geographic Information for the Countryside: [www.magic.gov.uk](http://www.magic.gov.uk).



Feature	Study Area	Data Source	Date of Search
The site in the context of habitat connectivity to the surrounding landscape	2 km radius of the site boundary	Satellite and OS map data	17 <sup>th</sup> July 2023

## Field Survey

### *UKHab Habitat Survey*

2.4. The UKHab Habitat survey was carried out on the 18<sup>th</sup> May 2023 and was extended to include an assessment for Natural Environment and Rural Communities Act (2006) Section 41 Habitats of Principal Importance (HPI) and of the sites potential to be used by protected or notable species as described below. The study area included the site boundary and a 30m radius for evidence of mobile protected species such as badger, access permitting. Weather conditions were appropriate for field survey with no rain and good visibility.

2.5. The site was walked over, and botanical species lists of representative and notable plant species for each habitat type were recorded. Habitats were classified and mapped with reference to best practice guidelines from UKHab Ltd (Butcher et al, 2020). The nomenclature used for botanical species lists broadly follows that of Stace, (2019). Protected or notable plant species where recorded where observed.

### *Amphibians (Including Great Crested Newt)*

2.6. The habitats at the site were assessed for their suitability to support amphibians, including a search of the site for ponds and suitable terrestrial habitat. The desk study included a search of ponds within a 250m radius of the site.

### *Badger*

2.7. The badger walkover survey was completed on the 18<sup>th</sup> May 2023 and repeated on the 31<sup>st</sup> July, and included a search for evidence of badger at the site with reference to best practice guidelines (Harris et. Al. 1989), such as sett entrances (normally 25 to 35cm wide and shaped like a 'D' on its flat edge), large spoil heaps outside sett entrances, bedding, footprints, mammal paths, latrines, hairs, scratching posts, badger hairs, and signs of digging for food or 'snuffle holes'. The survey included a search of the site and 30m radius (access permitting) for badger setts.

2.8. Where possible to do so, each sett was classed as either main, outlier, annex, or subsidiary, as follows:

- Main setts are typically large and in more or less continuous use with evidence of activity present, and well-worn mammal paths connecting the holes.
- Annexe setts are close to the main sett, typically 150m or less and often connected to the main sett via well-worn mammal paths. They may not be in use all the time.
- Subsidiary setts are usually at least 50m from a main sett and don't have a well-used mammal path connecting it to the main sett. They are not in use all the time.
- Outlying setts usually have only one or two holes with little spoil, no obvious mammal paths and are not used frequently.

2.9. At each sett the number of well used, partially used, and disused holes was recorded whereby:

- Well used holes are clear of debris or vegetation and are clearly in regular use.

- Partially used holes are not in regular use and have debris in the base of the tunnel such as leaves, vegetation or twigs.
- Disused holes are holes which have not been in use for considerable time and are partially or completely blocked by vegetation, other features, or tunnel collapse. These holes would require excavation by badgers for partial or regular use.

### *Badger Monitoring*

- 2.10. A badger monitoring period was undertaken of the mammal holes at the site with reference to Government Standing Advice<sup>2</sup> and Best Practice Guidance for Developers, Ecologists and Planners (England) from Badger Trust, (2023). The monitoring survey was undertaken to assess the current use status and level of badger activity at the setts, and assess if the sett is likely to be a significant sett for the badger group (i.e. a main sett). The monitoring survey comprised:
- The installation of motion triggered wildlife cameras, continuously monitoring for a minimum period of 4 weeks.
  - The placement of sticks over mammal hole entrances not covered by cameras, to ascertain the presence/ likely absence of mammals entering or exiting the hole. Whereby, if sticks remain in place, the sett or mammal hole is deemed to have not been used.
- 2.11. Spypoint Force-Dark - 12MP No Glow Infrared Trail Cameras were used. The trail cameras recorded video clips to an internal SD card when triggered by motion, whereby the cameras were set to detect motion continuously for 24 hours per day. The footage was then subject to desktop data analysis by a suitably qualified ecologist and notes made on badger activity observed.
- 2.12. The trail camera monitoring periods are provided in Table 2 below. In addition to the below, a site visit was made on the 16<sup>th</sup> August to maintain the cameras, retrieve data, and re-instate monitoring sticks. All well used and partially used mammal holes identified were fitted with monitoring cameras, which were in continuous monitoring between 31/07/2023 – 12/09/2023. Mammal hole 2 could not be fitted with a camera due to a fallen tree over the front of the hole.

Table 3: Summary Of Badger Camera Monitoring Periods.

Camera Location*	Period of Continuous Monitoring
Mammal Hole 5	31/07/2023 –12/09/2023
Mammal Holes 3 & 4	31/07/2023 –12/09/2023
Mammal Hole 1	31/07/2023 –12/09/2023

\*See Figure 4: Badger Constraints Plan sett locations.

### *Bats – Ground Level Assessment of Trees*

- 2.13. The preliminary Ground Level Bat Roost Assessment of trees was carried out with reference to best practice industry guidelines (Collins, 2016). The study area included all trees within the survey area.
- 2.14. The survey included a surveyor assessing the tree(s) from ground level aided by binoculars, noting potential bat entry/exit points, potential roosting features (PRFs), and any evidence of

<sup>2</sup> <https://www.gov.uk/guidance/badgers-surveys-and-mitigation-for-development-projects> <Accessed 28/09/2023>

bats. The trees were graded for their suitability to support roosting bats, which will inform the need for further survey effort, if required, such as a potential roost feature (PRF) inspection via rope and harness access and/or nocturnal survey.

- 2.15. The suitability of the trees for roosting bats was then categorised with reference to best practice industry guidelines (Collins, 2016) (Table 3) as either negligible, low, moderate, or high, which informs the need for further survey effort to establish the presence/ likely absence of roosting bats.

*Table 3: Guidelines for Assessing the Potential Bat Roosting Suitability of Structures and Trees (Adapted from Collins, (2016))*

Suitability	Description of Roosting Habitats	Commuting and Foraging Habitats
<b>Negligible</b>	Negligible features likely to be used by roosting bats. An absence of accessible voids, cracks and crevices.	Negligible features likely to be used by commuting or foraging bats. A lack of landscape habitat features.
<b>Low</b>	A structure or tree with a potential roost site which could be used by individual bats, which does not provide enough space, shelter, protection, or appropriate conditions (i.e. temperature, humidity, height above ground level, light levels, disturbance) or suitable surrounding habitat to be used on a regular basis by larger numbers of bats.	Habitat that could be used by small numbers of commuting bats such as a hedgerow with gaps or unvegetated stream, but isolated (i.e. not very well connected to the surrounding landscape by habitat).  Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
<b>Moderate</b>	A structure or tree with a potential roost site that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but is unlikely to support a roost of high conservation status (such as a maternity colony).	Continuous habitat connected to the wider landscape that could be used by commuting bats such as lines of trees and scrub or linked back gardens.  Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
<b>High</b>	A structure or tree with one or more potential roost sites that are suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions, and surrounding habitat.	Continuous high-quality habitat that is well connected to the wider landscape likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees, and woodland edge.  Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland.  Sites which are close to and connected to known roosts.

#### *Bats – Commuting and Foraging*

- 2.16. With reference to Table 3, an assessment of the habitats at the site to support commuting and foraging bats was made, within the context of habitat connectivity to features in the wider landscape. The site was assessed as either negligible, low, moderate, or high suitability for commuting and foraging bats.

#### *Birds*

- 2.17. An assessment of the suitability of the site to support breeding, migrating, and wintering birds was made, and the site was searched where accessible and practical to do so for active or historical bird nests.

### *Terrestrial Invertebrates*

- 2.18. An assessment was made of the suitability of the habitats at the site to support notable assemblages of invertebrates, such as vegetation structure, vegetation species diversity, deadwood, and host plants/ animals.

### *Reptiles*

- 2.19. An assessment was made of the suitability of the habitats at the site for reptiles. Optimal habitat for reptiles includes rough grassland, moorland, heathland, woodland and scrub, suburban areas such as railway embankments, golf courses and allotments, and sympathetically managed farmland. Favourable features for reptiles include sunny south facing banks for basking, ecotones such as the transition between grassland and scrub, and hibernacula such as stone, log, and brash piles.

### *Other Mammals*

- 2.20. An assessment of the site to support other mammals including brown hare, harvest mouse, and hedgehog was also made.

### *Invasive Species*

- 2.21. Invasive plant species such as those listed on Schedule 9 of the Wildlife and Countryside Act 1981 (As Amended) were recorded where encountered during the UKHab Habitat survey.

### **Limitations**

- 2.22. It must be noted that survey effort has been made to provide detailed descriptions of the site within the context of potential usage by protected species, however a fully comprehensive assessment and prediction of natural factors cannot be made. The protected species assessment provides a professional view of the likelihood of such species being present and cannot be taken as a definitive presence or absence of the same. Systematic presence/ likely absence surveys for such species, which typically require multiple survey visits, have not been undertaken and are outside of the scope of Preliminary Ecological Appraisal. Such surveys are recommended in the present report if considered proportionate to the potential ecological impacts of the development proposals.
- 2.23. Third party desk study data is not exhaustive, and an absence or a negative result of a species does not indicate the absence of protected species from the site/ search area.
- 2.24. All dimensions, locations and distances provided are approximate.

### 3. Results

#### Desk Study

##### *Surrounding Landscape*

- 3.1. The surrounding landscape is primarily sub-urban (Figure 2: Surrounding Landscape Plan).
- 3.2. Habitat features favourable to ecology in the wider landscape are predominantly situated to the east and north of the site beyond the edge of the Borough of Gedling. Gedling House Woods is located approximately 155m east of the site, and Willow Park is located approximately 100m west of the site, which shares habitat connectivity to the site via a tree lined ditch and boundary trees of Willow Farm Primary School. In the wider landscape is Lambley Lane Park and Gedling Country Park at distances of 750m northwest and 900m northwest, respectively.
- 3.3. Landscape features which may limit habitat quality and connectivity include artificial lighting, vehicular access roads, and residential boundaries associated with the Borough of Gedling which surrounds the site.

##### *Statutory Designated Sites*

- 3.4. The site does not form part of an international or national designated site for nature conservation.
- 3.5. A summary of designated sites identified via the desk study are presented in Table 4 below.

Table 4: Summary of Statutory Designated Sites.

Site Name	Designation	Description/ Reasons Designation	Main for	Distance & Direction from Site
Gedling House Meadow	Local Nature Reserve (LNR)	Long history of being grazed by sheep and horses. restored in 2005 via re-seeding and the addition of yellow rattle and have now become good quality meadowland.		155m east
Gedling House Woods	Local Nature Reserve (LNR)	Regenerated woodland - mixture of several common tree species. Some areas of English bluebell, wood anemone and wild garlic		185m east
Gedling Country Park	Local Nature Reserve (LNR)	A variety of habitats including lagoons, meadows, woodland, orchard, and scrapes.		910m northwest

- 3.6. The site does not lie within a Site of Special Scientific Interest Impact Risk Zone (SSSI IRZ).

### *Non-Statutory Designated Sites*

- 3.7. The site does not form part of a non-statutory designated site for nature conservation.
- 3.8. Three non-statutory designated sites were located within the relevant study area. These were Local Wildlife Sites (called Sites of Importance for Nature Conservation (SINCs)).
- 3.9. A summary of non-statutory designated sites identified via the desk study are presented in Table 5 below.

*Table 5: Summary of Non-Statutory Designated Sites.*

Site Name	Designation	Description/ Reasons Designation	Main for	Distance & Direction from Site
Harveys Plantation Meadow	Site of Importance for Nature Conservation (SINC)	A steeply-sloping meadow		530m Northwest
Carlton Cemetery		A notable neutral grassland in a cemetery		1300m southeast
Gedling Cemetery		A notable neutral grassland in a cemetery		850m west northwest

### *Priority Habitats and Ancient Woodland*

- 3.10. No priority habitats were noted on site via the desk study.
- 3.11. The closest priority habitat to the site was deciduous woodland at a distance of 145m east.
- 3.12. Other priority habitats returned within a 1km radius of the site included good quality semi-improved grassland, deciduous woodland and traditional orchard.

### **Field Survey**

#### *UKHab Habitat Survey*

- 3.13. The habitats recorded at the survey site during the UKHab Habitat survey are presented in Table 6 and mapped on Figure 3: Baseline Habitat Plan.

Table 6: UKHab Habitat Assessment Results

UKHab Primary Code	Habitat Type	UKHab Secondary Code	Description	(NERC) Act 2006 HPI*	Habitat of Local Importance	Photograph Ref No. (Appendix 2: Photographs)
G3c	Other neutral grassland	161 – Tall / tussocky sward in some areas 17 Ruderal	<p>Grass species dominated the sward and included abundant Yorkshire fog <i>Holcus lanatus</i>, fescue <i>Festuca sp.</i>, and frequent perennial rye grass <i>Lolium perenne</i> with locally abundant rough meadow grass <i>Poa trivialis</i> and with occasional brome <i>Bromus sp.</i>, sweet vernal grass <i>Anthoxanthum odoratum</i>, and false oat grass <i>Arrhenatherum elatius</i> in less managed areas. Occasionally present was creeping thistle <i>Cirsium arvense</i>, ribwort plantain <i>Plantago lanceolata</i>, herb Robert <i>Geranium robertianum</i>, broadleaved dock <i>Rumex obtusifolius</i>, yarrow <i>Achillea millefolium</i>, white clover <i>Trifolium repens</i>, meadow buttercup <i>Ranunculus acris</i>, and germander speedwell <i>Veronica chamaedrys</i>, fox and cubs <i>Pilosella aurantiaca</i>, bittercress <i>Cardamine hirsuta</i>, and cleavers <i>Galium aparine</i>. Rarely present was common nettle <i>Urtica dioica</i> common vetch <i>Vicia sativa</i>, cut leaved cranesbill <i>Geranium dissectum</i>, wood avens <i>Geum urbanum</i>, lords and ladies <i>Arum maculatum</i>, field wood-rush <i>Luzula campestris</i> and common sorrel <i>Rumex acetosa</i>.</p> <p>At the edges of the grassland small areas dominated by tall ruderal species were present including locally dominant common nettle and cleavers with occasional cuckoo flower <i>Cardamine pratensis</i>, spear thistle <i>Cirsium vulgare</i>, green alkanet <i>Pentaglottis sempervirens</i>, cow parley <i>Anthriscus sylvestris</i>, and garlic mustard <i>Alliaria petiolata</i>.</p>	No	No	1 & 2
H3	Dense Scrub	N/A	The dense scrub at the site was not intensively managed and included abundant cherry laurel <i>Prunus laurocerasus</i> and bramble <i>Rubus fruticosus</i> with occasional sycamore <i>Acer pseudoplatanus</i> , elder <i>Sambucus nigra</i> , young ash <i>Fraxinus excelsior</i> , young birch <i>Betula</i> , and common hawthorn <i>Crataegus monogyna</i> .	No	3	1
u1d	Suburban mosaic of developed/ natural surface	N/A	<p>Two areas of artificial surface were present on site, one at the east site boundary, and another within the west of the site.</p> <p>The area at the east site boundary included rubble with moss and encroaching grassland of approximately 40% vegetation cover.</p> <p>The area in the west of the site was of approximately 50% vegetation cover, with vegetation including cherry laurel, bramble, cleavers, and forget-me-not, and with saplings of birch, sycamore, and ash.</p>	No	No	5
N/A	Tree Line 1 (TL1)	N/A	TL1 was present in the northwest of the site, at the top of the dry ditch bank. Species included ash and sycamore.	Yes	Yes	3
	Tree Line 2 (TL 2)	N/A	TL2 was present at the southwest site boundary, species included ash and sycamore.	Yes	Yes	4
	Scattered Trees	N/A	A group of scattered trees were present in the north of the site. Species were primarily young to early mature and included sycamore, lime, ash, birch and a mature unidentified conifer tree.	No	No	6
	Fence	N/A	Fencing was present the site boundaries.	No	No	
	Wall	N/A	Low level brick walls were present at the southeast site boundary and within the site.	No	No	

\*Natural Environment and Rural Communities Act (2006) Section 41 Habitat of Principal Importance (HPI). As defined with reference to habitat descriptions provided in Maddock, A. (ed) (2011).

### **Protected/ Notable Species**

- 3.14. The results of the protected/ notable species assessment undertaken during the Extended UKHab Habitat Survey are provided in Table 7 overleaf.
- 3.15. A summary of desk study results is also provided in Table 7. Additional species records were returned by the LERC within the search radius, which are considered unlikely to be impacted by the proposed development and are therefore not included. These include species for which there is no suitable habitat present on site or the surrounding area.



Table 7: Protected/ Notable Species Assessment

Species/ Species Group	Desk Study	Evidence Observed During Extended Phase 1 Habitat Survey	Suitability of Habitats Present
<b>Amphibians (including great crested newt)</b>	<p>42 records of amphibians were returned via the desk study. The closest record related to smooth newt <i>Lissotriton vulgaris</i> approximately 0.3km west of site in 1989.</p> <p>Other amphibian species returned via the desk study included eight records of GCN, and records of common frog <i>Rana temporaria</i>, and common toad <i>Bufo bufo</i>.</p> <p>The closest record of GCN returned via the desk study was 680m south of the site, with barriers to migration for GCN between the site and the record.</p> <p>No previous granted mitigation licences or pond surveys relating to GCN were noted within 2km of the survey site.</p> <p>11 GCN class survey licence returns were noted within the 2km of the survey site. The closest related to three returns at the same grid reference in April, May, and June 2014 approximately 1km northeast of site.</p>	None	<p>No ponds were present on site. No further ponds were present within a 250m radius of the site.</p> <p>The site offered suitable terrestrial habitat for amphibians including dense scrub, grassland, and a rubble pile.</p>
<b>Badger</b>	<p>12 records of badgers were returned via the desk study. The closest record related to a deceased individual approximately 0.1km southeast of site in 2012.</p> <p>Three records of badger setts were returned within the desk study data, which were located at distances of 250m ENE, 450m ESE, and 650m ENE. These appear to be associated with Gedling House Woods to the east.</p>	See 'Badger Survey Results' in the following section after the present Table.	The habitats at the site were suitable for badger including banks and foraging areas.
<b>Bats – ground level bat assessment of trees</b>	<p>168 records of bats were returned via the desk study. The closest record related to pipistrelle <i>Pipistrellus sp.</i> approximately 0.1km northeast of site in 1987.</p>	N/A	No trees with bat roosting suitability were recorded on site.
<b>Bats - preliminary bat roost assessment</b>	<p>Other bat species returned via the desk study included brown long-eared bat <i>Plecotus auritus</i>, Natterer's bat <i>Myotis nattereri</i>, noctule <i>Nyctalus noctula</i>, Nathusius's pipistrelle <i>Pipistrellus nathusii</i>, soprano pipistrelle <i>Pipistrellus pygmaeus</i>, and unidentified <i>Myotis sp.</i> and <i>Nyctalus sp.</i> bats.</p>	N/A	No buildings/ structures with bat roosting suitability were recorded on site.
<b>Bats – commuting and foraging</b>	<p>One previous granted mitigation licence relating to bats was noted within 2km of the survey site. The licence allowed for the destruction of a breeding site for brown long-eared bat, common pipistrelle <i>Pipistrellus pipistrellus</i>, Daubenton's <i>Myotis daubentonii</i>, Natterer's, and soprano pipistrelle at a location approximately 1km east between 2019 and 2031.</p>	N/A	The site offered moderate bat commuting and foraging habitat including connectivity to linked residential gardens, trees, and patches of scrub.
<b>Birds</b>	<p>18 records of birds were returned via the desk study, including Schedule 1, red, and amber listed bird species (Stanbury <i>et al.</i>, 2021). The closest record related to tawny owl <i>Strix aluco</i>, common swift <i>Apus apus</i>, house martin <i>Delichon urbicum</i>, and barn swallow <i>Hirundo rustica</i> at Wood Lane, Gedling approximately 0.1km east of site in 2016.</p> <p>Schedule 1 birds returned via the desk study included Mediterranean gull <i>Larus melanocephalus</i> in 2016. Red listed birds returned via the desk study included yellowhammer <i>Emberiza citrinella</i> in 2019. Amber listed birds returned via the desk study included rook <i>Corvus frugilegus</i> in 2016.</p>	Common and widespread garden birds only were recorded on site during the survey.	The site offers suitable nest building and foraging habitat including dense scrub and trees, for a range of bird species.
<b>Hazel dormouse</b>	No records of previously granted Natural England mitigation licences relating to hazel dormouse were found within a 1km radius of the site via the desk study.		

	Via a study of online resources, it is considered that the present site is outside of the core distribution areas of hazel dormouse.		
<b>Fish</b>	The ditch at the northwest site boundary was dry at the time of survey. However, the ditch may be seasonally wet/ running and is likely to have connectivity to Ouse Dyke, a tributary of the River Trent.		
<b>Terrestrial invertebrates</b>	No records for terrestrial invertebrates were returned via the desk study.	None	The site offered common and widespread habitats of limited botanical diversity, with some suitability for terrestrial invertebrates.
<b>Otter</b>	The ditch at the northwest site boundary was dry at the time of survey. However, the ditch may be seasonally wet/ running and is likely to have connectivity to Ouse Dyke, a tributary of the River Trent. No evidence of otter was recorded.		
<b>Reptiles</b>	2 records of reptiles, both relating to slow-worm <i>Anguis fragilis</i> , were returned via the desk study. The closest record related to an individual approximately 0.2km northeast of site in 2018.	None	The site offered suitability for reptiles including areas of tussocky grassland, rubble and dense scrub.
<b>Water vole</b>	The ditch at the northwest site boundary was dry at the time of survey. However, the ditch may be seasonally wet/ running and is likely to have connectivity to Ouse Dyke, a tributary of the River Trent. No evidence of water vole was recorded.		
<b>Aquatic Invertebrates (including White-clawed Crayfish)</b>	The ditch at the northwest site boundary was dry at the time of survey and therefore unsuitable for this species. However, the ditch may be seasonally wet/ running and is likely to have connectivity to Ouse Dyke, a tributary of the River Trent.		
<b>Other Mammals (Including brown hare, harvest mouse, and hedgehog)</b>	16 records of other mammals were returned via the desk study. The closest record related to hedgehog approximately 0.2km north of site in 2021.  Mammal species records returned via the desk study were limited to hedgehog and brown hare.	None	The grassland and scrub at the site offer suitable habitat for hedgehog.
<b>Invasive species</b>	4 records of invasive species were returned via the desk study. The closest record related to Japanese knotweed <i>Reynoutria japonica</i> approximately 0.1km south of site in 2009.  Other invasive species returned via the desk study included Himalayan balsam <i>Impatiens glandulifera</i> .	None	N/A

## Badger Survey Results

### *Walkover Survey Results*

- 3.16. A total of five mammal holes potentially attributable to badger were identified during the Extended UKHab survey of the site (Figure 3: Baseline Habitat Plan, Target Notes 1 – 5) (Appendix 2: Photographs 7 – 10). Of the five holes, one appeared well used and the remaining four appeared partially used. Partially used mammal paths connected the holes and the paths loosely extended away from the holes along the ditch and away from the site to the southwest, and across the ditch leading to a well-worn squeeze under the fence at the northwest site boundary (Figure 3: Baseline Habitat Plan, Target Note 6) (Appendix 2: Photograph 11).
- 3.17. At the second site visit to install the monitoring cameras, a tree had fallen at the entrance of mammal hole 2, and therefore a camera was not installed on this mammal hole and the mammal hole is considered disused.
- 3.18. The camera monitoring period ran continuously from 31/07/2023 until 12/09/2023.

### *Monitoring Survey Results – Mammal Hole 5*

- 3.19. The first recording of a badger entering/ exiting the sett at mammal hole 5 was on the 31<sup>st</sup> August, two badgers exited the hole (Appendix 2: Photo 12). No recordings of badger entrances/ exits at the hole were made on any other night during the monitoring period.
- 3.20. Other occasional badger activity above ground in the vicinity of the hole was recorded occasionally on nights between the 4<sup>th</sup> August 2023 and 12<sup>th</sup> September 2023. A peak count of 2 badgers active above ground were recorded at any one time by the camera.
- 3.21. On the 26<sup>th</sup> August, a fox exited the hole at 08:34.

### *Monitoring Survey Results – Mammal Holes 3 & 4*

- 3.22. The first recording of a badger entering/ exiting the sett was on the 8<sup>th</sup> August. Occasional badger entrances/ exits at the sett were then recorded on 12<sup>th</sup> August (Appendix 2: Photo 13), 13<sup>th</sup> August, 17<sup>th</sup> August and each night between the 23<sup>rd</sup> August and the 8<sup>th</sup> September, then on each night between the 10<sup>th</sup> September and 12<sup>th</sup> September. A peak count of two badgers entering/ exiting the sett at any one time were recorded.
- 3.23. Other activity recorded by the camera included occasional badger active above ground from the 2<sup>nd</sup> August to the 12<sup>th</sup> September, but this did not occur every night. A peak count of 4 badgers active above ground were recorded at any one time by the camera.
- 3.24. One fox exited the sett on the 11<sup>th</sup> August at 05:56.

### *Monitoring Survey Results – Mammal Hole 1*

- 3.25. The first recording of a badger entering/ exiting the sett was on the 3<sup>rd</sup> August. Subsequent badger entry/ exit events at the hole were recorded on the 7<sup>th</sup> August, 12<sup>th</sup> August, 22<sup>nd</sup> August, 23<sup>rd</sup> August, 25<sup>th</sup> August, 27<sup>th</sup> August, 28<sup>th</sup> August, 31<sup>st</sup> August, 5<sup>th</sup> September, and 6<sup>th</sup> September. A peak count of two badgers were recorded at any one time using the hole. A peak count of 4 active badgers were recorded by the camera at any one time, active above ground.

## 4. Ecological Constraints & Opportunities

- 4.1. The ecological constraints and opportunities, and recommendations for avoidance, mitigation, or further survey (where required) are provided in Table 8 overleaf.

Table 8: Ecological Constraints & Opportunities

Ecological Feature	Potential Ecological Impact & Level of Constraint	Potential Avoidance, Mitigation and/or Compensation Measures	Further Survey Required to Inform an Ecological Impact Assessment
<b>Statutory &amp; Non-Statutory Designated Sites</b>	It is considered that due to the distance and lack of connectivity between the site and the designated sites identified via the desk study, and the small scale of the development proposed, significant impacts to the designated sites identified would not occur.	N/A	N/A
<b>Priority habitats</b>	The tree lines at the site were identified as Natural Environment and Rural Communities Act (2006) Section 41 Habitats of Principal Importance (HPI), meeting the criteria for hedgerows as defined with reference to habitat descriptions provided in Maddock, A. (ed) (2011).	The two tree lines at the site will be retained under the current development proposals for the site. The retained tree lines and associated root protection areas will be protected during works in accordance with BS5837:2012. Materials, fuels, oils and chemicals etc will be stored at least 20m from the retained treeline sections.	N/A
<b>Habitats (general)</b>	<p>The native trees and ditch on site are considered to be of site to local level ecological importance and will be retained.</p> <p>Areas of grassland and dense scrub at the site will be removed to facilitate the proposed development. Given the low botanical diversity of the grassland and scrub present and its residential setting, it is not considered that the loss of this habitat would be of a significant ecological impact above the lower local level.</p>	<p>Any removed trees should be replaced with native species of value to wildlife on a 1:1 basis to those lost.</p> <p>The landscaping scheme should seek to incorporate native tree and shrub planting where possible.</p>	Should the proposals be required to deliver a Biodiversity Net Gain, a Biodiversity Impact Assessment Calculation exercise would be required, informed by a Biodiversity Metric.
<b>Fish, otter, water vole and white clawed-crayfish</b>	<p>Otter are a fully protected European Protected Species (EPS) under The Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended).</p> <p>Water vole are afforded legal protection under the Wildlife and Countryside Act 1981 (as amended).</p> <p>White-clawed crayfish (WCC) receive partial protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), prohibiting the taking of any native crayfish for any purpose except under licence.</p> <p>WCC is listed under Annex II and V of the EC Habitats Directive, implemented in the UK by the Conservation (Natural Habitats &amp;c) Regulations 1994. Annex II requires that Special Areas of Conservation (SAC) are established to conserve this and other listed species.</p>	<p>The ditch at the northwest site boundary was dry at the time of survey. However, the ditch may be seasonally wet/ running and is likely to have connectivity to Ouse Dyke, a tributary of the River Trent.</p> <p>To mitigate potential significant effects to the ditch and connected watercourses during the construction phase of the proposed development and with reference to Clause 10.2 of the British Standard 'BS 42020:2013 Biodiversity — Code of practice for planning and development', the works should be carried out under a Construction Environmental Management Plan (CEMP) which should include measures to protect the ditch and retained trees during works, including from pollution events. The drainage plan for the site should ensure that no water enters the ditch which could have a negative ecological impact.</p>	N/A
<b>Badgers</b>	<b>See Section 5: Badger Constraints &amp; Mitigation Strategy</b>		
<b>Birds</b>	Nesting birds are afforded legal protection under the Wildlife and Countryside Act 1981 (as amended).	Where works affecting nesting bird habitat at the site cannot avoid the nesting bird season of March to August (inclusive) and September in mild years, the habitat to be subject to works should be surveyed for nesting birds immediately prior to removal by a suitably qualified ecologist. If nesting birds are recorded, a suitable buffer zone should be defined by the ecologist and implemented until the ecologist confirms the chicks have fledged. If species identification is possible, this can be used to inform the typical egg incubation and fledging period, giving an indication of an appropriate time for re-survey to confirm fledging.	N/A

Ecological Feature	Potential Ecological Impact & Level of Constraint	Potential Avoidance, Mitigation and/or Compensation Measures	Further Survey Required to Inform an Ecological Impact Assessment
<b>Bats</b>	Bats are a fully protected European Protected Species (EPS) under The Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended).	<p>In the unlikely event that a bat is encountered during works, works should cease immediately, and the advice of a suitably experienced ecologist sought.</p> <p>Due to the presence of bats in the wider area as highlighted by the desk study, and the suitability of the habitat for commuting and foraging bats, the impacts from external artificial lighting on the site and on adjacent habitats should be avoided. Where lighting is required, both during construction works and post-development, this should be sympathetic to wildlife through the design of lighting observing the principles set out in guidelines from the Bat Conservation Trust (BCT) &amp; Institution of Lighting Professionals (BCT &amp; ILP, 2018).</p>	N/A
<b>Reptiles</b>	Reptiles are partially protected under the Wildlife and Countryside Act 1981 (as amended), protecting them from killing or injury.	<p>To prevent the killing and injury of reptiles during the works, it is recommended that vegetation clearance at the site is carried out under precautionary working methods for amphibians and reptiles, to include a fingertip search of vegetation and suitable hibernacula prior to works, as well as staged and directional vegetation removal encouraging the safe displacement of amphibians and reptiles into adjacent habitats.</p> <p>In the highly unlikely event that amphibians or reptiles are encountered during works, works should cease immediately, and the advice of an ecologist sought.</p>	
<b>Amphibians</b>	<p>Great crested newts (GCN) are fully protected as a European Protected Species (EPS) under The Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended).</p> <p>No ponds were identified on site or within a 250m radius of the site.</p>	<p>To prevent the killing and injury of terrestrial amphibians during the works, it is recommended that vegetation clearance at the site is carried out under precautionary working methods for amphibians, to include a fingertip search of vegetation and suitable hibernacula prior to works.</p> <p>In the highly unlikely event that amphibians or reptiles are encountered during works, works should cease immediately, and the advice of an ecologist sought.</p>	
<b>Other Mammals</b>	<p>Some mammals, such as hedgehog, are listed as Species of Principal Importance in England under section 41 of the Natural Environment and Rural Communities Act 2006. These species are termed 'Priority' species and receive special considerations in the planning process.</p> <p>Hedgehog are a Nottinghamshire Biodiversity Action Plan species.</p> <p>The site may support hedgehog, a species sensitive to impacts from habitat fragmentation.</p> <p>The Wild Mammals (Protection) Act 1996 makes it an offence to inflict unnecessary suffering on wild mammals.</p>	<p>The precautionary working methods implemented for badger will also protect other mammals such as hedgehog.</p> <p>Any new close boarded fencing which may fragment the landscape for hedgehog should include a 13cm square hole at the base to allow for hedgehog migration through the site.</p>	

## 5. Badger Constraints & Mitigation Strategy

- 5.1. A total of one badger sett was identified via the badger survey and monitoring period at the site, which is considered unlikely to be a main sett but is showing signs of current use. The closest hole of the sett is approximately 10m – 20m from the proposed building footprint (Figure 4: Badger Constraints Plan).

### Potential Ecological Impact & Level of Constraint

- 5.2. Impacts can occur to badgers in development via:

- Direct loss of setts
- Damage to setts
- Direct or indirect disturbance to badgers occupying their setts
- Direct or indirect loss of foraging areas, access to water sources, and wildlife corridors/ commuting routes
- Mortality or injury of badgers via entering construction sites.

- 5.3. With reference to *Badger Protection: Best Practice Guidance for Developers, Ecologists and Planners (England)* from Badger Trust, (2023), further guidance is provided regarding the level of disturbance to badger setts which may trigger an offence under the applicable legislation as follows:

*“It must be recognised that badgers can be disturbed by work near a sett, even if there is no direct interference or damage to the sett. It is difficult to know what badgers will find disturbing in each circumstance or where in a sett badgers may be living. In light of this, Badger Trust considers the following activities may require a licence:*

- *Use of heavy machinery within 30 metres of any sett entrance.*
- *Use of lighter machinery (particularly for digging) within 20 metres of any sett entrance.*
- *Use of hand tools such as hand digging or scrub clearance within 10 metres of any sett entrance.*

*These are guidelines only. Other factors should be taken into account including topography, sett type and age and [if] the location is in a rural or urban environment.”*

- 5.4. Further Standing Advice guidance from Natural England & Department for Environment, Food & Rural Affairs<sup>3</sup> states that:

*“You usually won’t need a licence to do the following if it’s unlikely to disturb a badger in its sett or damage a sett:*

- *work with hand tools or machinery above or below ground close to a sett*
- *clear vegetation near setts, including felling small trees or shrubs, provided they are not uprooted and don’t block access to the sett*
- *clear ditches and watercourses using hand tools or machinery”*

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<sup>3</sup> Available at: <https://www.gov.uk/guidance/badgers-protection-surveys-and-licences> Accessed 28/09/2023.

## Construction Phase Impacts & Mitigation

### *Potential Impacts Within 30m of The Sett*

- 5.5. Development works are proposed within 30m of the sett entrance holes. Within this zone, the following works will take place:
- Vegetation clearance.
  - Creation of a hardstanding driveway.
  - The erection of a building, including excavation of foundations.
- 5.6. The sett entrance holes can be retained post-development, and it is considered that the direct loss of setts will not be required.
- 5.7. In the absence of mitigation, the injury or killing of badgers could occur at the construction site due to the potential for the badger sett tunnels to extend under the construction site, and the potential of tunnel collapse via vibration. This could also result in damage to setts, as well as disturbance to badgers occupying setts. It is therefore considered that a Natural England mitigation licence would be required for the temporary closure of the badger sett and the exclusion of badgers during the construction period.
- 5.8. All licensable works can only be carried out between July -November (inclusive). A site visit will be carried out prior to submission of the licence application. The licence application submission can only be made to Natural England on receipt of planning consent, or prior notice to demolition consent approval.

Once in receipt of the licence from NE, one-way gates would be installed on all active and partially active holes. Under the terms of the licence, the gates should be checked every three days over a 21-day period to ensure badger have not re-entered the sett. In the event badger do re-enter, repairs will be made, and the 21-day checking period will recommence until 21 days of no re-entry has been reached.

On completion of the successful 21 day checking period the badgers are deemed excluded from the sett, and all gates will be set in a closed position for the duration of the site works. All gates and any ground mesh will then be removed on completion of all site works, and badgers allowed to re-enter the sett.

A licence return report (required under the terms of the licence) will then be submitted to Natural England within 14 days of the works.

Killing and injury of commuting and foraging badgers above ground could also occur during the construction phase, should displaced active badgers enter the construction site, including at night. Precautionary methods should be implemented during works to protect foraging and commuting badger during construction. Typical measures include:

- Boundary treatment during works to prevent badgers entering the construction site.
- Foundation ditches and other ditches, excavations, or trenches, which can be hazardous to badgers, should be closed overnight or fitted with roughened sloping boards or steps to allow animals to escape should they become trapped.
- Concrete should not be left unset overnight, or suitable barriers erected to prevent animals accessing the concrete.
- Pipework with a diameter greater than 120mm should have the ends closed off overnight to prevent entrapment.



5.9. These measures can be controlled via the implementation of a CEMP.

*Foraging, Water and Commuting Areas for Badgers*

5.10. It is considered that within the context of the wider landscape, the loss of the trees and vegetation onsite is unlikely to significantly adversely affect the local badger population or prevent access to foraging, water and commuting areas for badgers. Commuting routes between the setts and the wider area will not be severed. This includes the tree belt and ditch at the north site boundary.

**Operational Phase Impacts**

5.11. It is recommended that external artificial lighting is avoided where possible, to avoid impacts on adjacent habitats including woodland and the species known to be present including badgers and bats, which are nocturnal species. Where artificial lighting cannot be avoided, potential impacts should be mitigated through the design of lighting observing the principles set out in guidelines from the Bat Conservation Trust (BCT) & Institution of Lighting Professionals (BCT & ILP, 2018). This should include any artificial lighting required during the construction phase of the development.

5.12. No foraging 'snuffle holes', latrines, or mammal paths were recorded within the proposed development site. The development proposals will not sever habitat connectivity to the wider landscape including woodland, trees, and ditches. It is therefore considered there will be no significant impacts arising from loss of foraging or watering areas, or commuting corridors, as a result of the proposed works.

5.13. Potential human-wildlife conflicts could occur post-development, should badger continually re-enter the site or excavate new setts during the operational/ occupational phase of the development. It is considered that a badger proof fence could be installed along the north site boundary to prevent this.

**Pre-commencement Survey**

5.1. With reference to *Badger Protection: Best Practice Guidance for Developers, Ecologists and Planners (England)* (Badger Trust, 2023):

*"A requirement to update the survey pre-commencement of works is a MUST (as sometimes the activity status at a badger sett changes)."*

5.2. Therefore, it is recommended that an updated badger walkover survey is carried out immediately prior to the proposed works and to inform the Natural England mitigation licence application, to ensure the distribution of badger sett entrance holes and activity at the site has not changed. This measure can be controlled via an appropriately worded planning condition and included in the CEMP for the site.

## 6. Ecological Enhancement

- 6.1. A range of ecological enhancement options for the development proposals are presented below.

### **Bat Boxes**

- 6.2. Bats have been identified as a local nature conservation priority in the Nottinghamshire Biodiversity Action Plan.
- 6.3. As a method of site enhancement for roosting bats, two bat boxes could be installed on retained trees within the retained trees at the northwest of the site, which is within suitable bat commuting and foraging habitat and away from artificial light sources.
- 6.4. The bat boxes installed should be Greenwoods Eco Habitats Two Crevice Bat Box or similar, which are made of long-lasting material. The bat boxes should be located at least 4m above ground level or higher, to avoid human interference, on a southwest or southeast aspect, and should be located away from artificial light sources.
- 6.5. The bat boxes are designed to be self-cleaning once installed. Bat boxes should be left undisturbed. All boxes should be installed as per the manufacturer's instructions.

### **Integrated Swift Brick**

- 6.6. Swifts have been identified as a local nature conservation priority in the Nottinghamshire Biodiversity Action Plan.
- 6.7. The proposed development could include the installation of integrated swift bricks, forming permanent nesting features on new buildings. Suitable models include the 'Vivara Pro Cambridge Brick Faced Swift Nest Box' or the 'Ibstock Eco-habitat for Swifts'.
- 6.8. Swift bricks should ideally be sited under the eaves, and should be at least 5m above the ground, with an unobstructed flight path. Swift bricks should not be in direct sunlight, with a north or east aspect preferred.
- 6.9. Swifts breed in colonies, so it is recommended at least 2 or 3 swift bricks are installed at least 40cm apart. Other birds including house sparrow and tits should also nest in swift bricks. Potential perches for predators (such as aerials) should not be fitted in close proximity to the nest brick entrance hole.

### **Song Thrush Nest Box**

- 6.10. Song thrush have been identified as a local nature conservation priority in the Nottinghamshire Biodiversity Action Plan.
- 6.11. The proposed development could include nesting provisions for song thrush. Two song thrush nest boxes could be installed on a retained tree. The chances of occupation are higher if there is a good tree or hedge cover nearby.
- 6.12. Open fronted nest boxes suitable for song thrush should be used, such as the 2H Schwegler box which is of a long-lasting material. Boxes should be hung at a height of 3m or higher, facing between north and east, and angled slightly downward so they face away from prevailing rain and wind. All boxes should be installed as per the manufacturer's instructions.

### **Stag Beetle Loggery**

- 6.13. Stag beetles require decaying wood that is in contact with the soil, to feed on and also to lay their eggs in.

- 6.14. Logs from broadleaved trees could be placed vertically in the ground to form a 'loggery'. The below ground portion of each vertical log should be buried approximately 50cm with varying heights above ground to create interest and habitat variation. Several vertical logs should be installed in a group cluster. The goal is to replicate a decaying tree stump habitat. The loggery should be located in existing woodland or woodland edge habitat and ideally in partial shade to prevent drying out.

## 7. References

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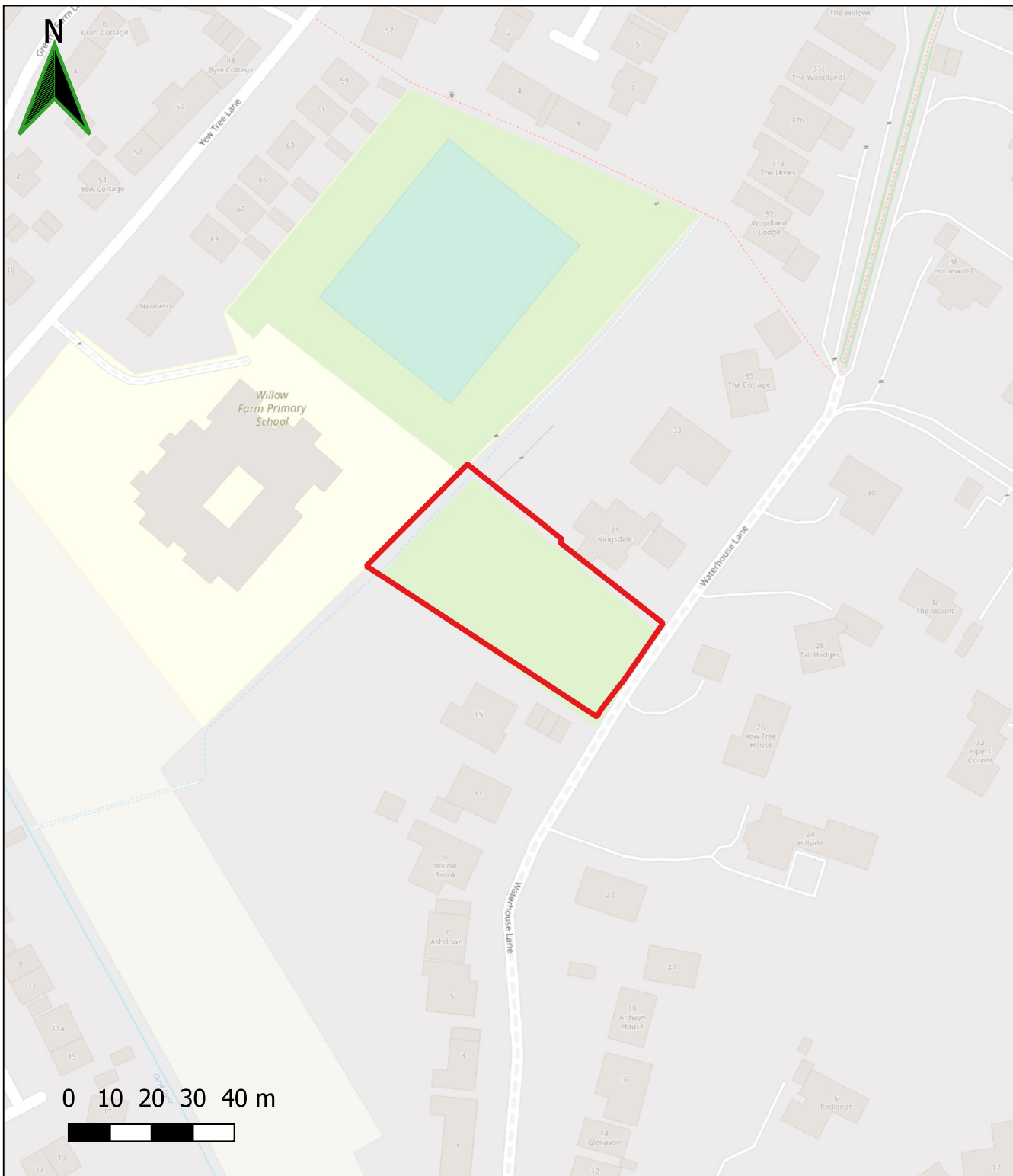
## 8. Figures

*Figure 1: Site Location & Building Plan (Overleaf)*

*Figure 2: Surrounding Landscape Plan (Overleaf)*

*Figure 3: UKHab Habitat Plan (Overleaf)*

*Figure 4: Badger Constraints Plan (Overleaf)*



## Legend

 Site Boundary

Project:

**Land Adjacent to 15 Waterhouse Lane**

Drawing:

**Figure 1: Site Location Plan**

Date: 17-07-2023

Version: FINAL

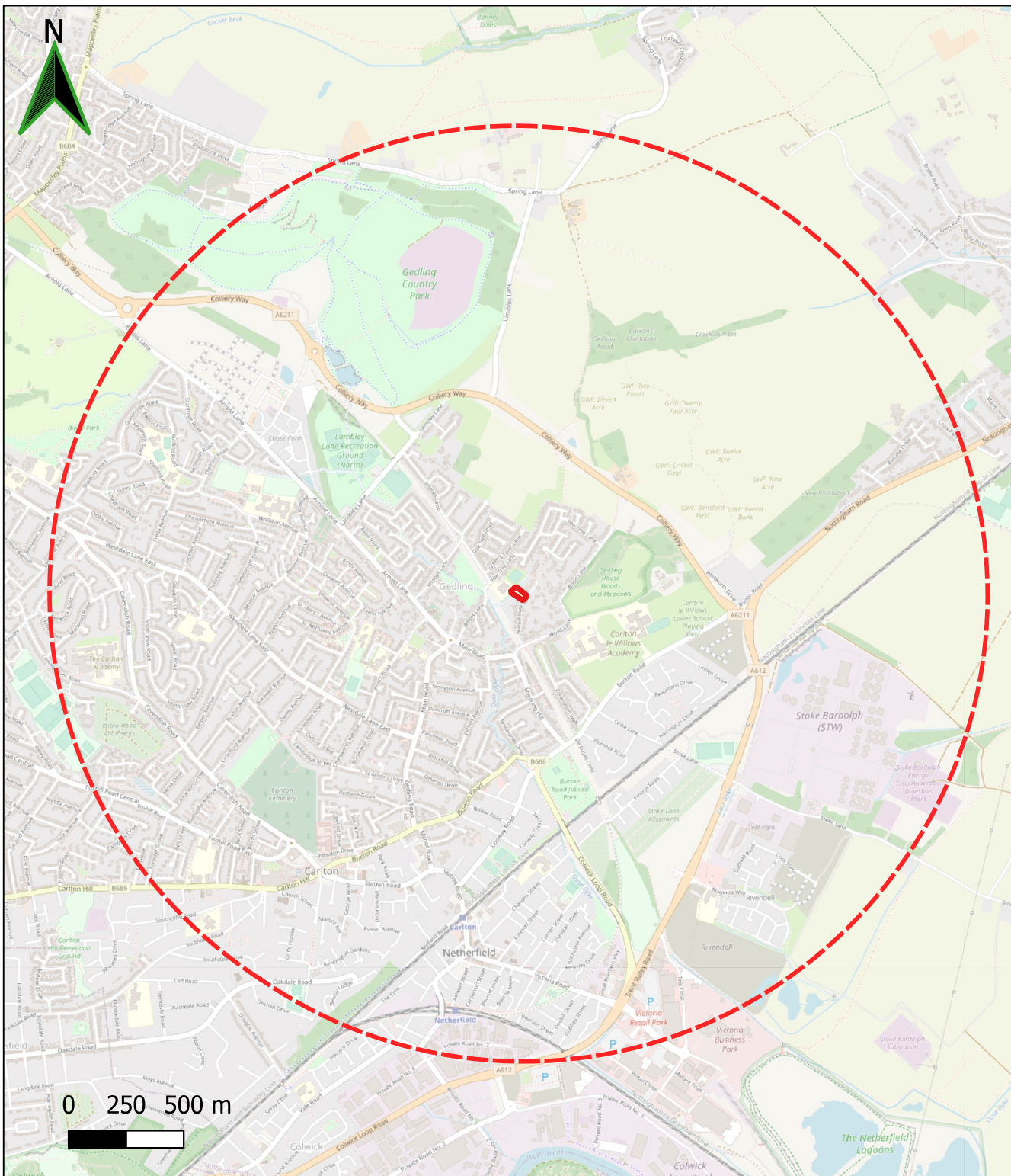
Author: TE

Job No: P2477



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## Legend

Project:

**Land Adjacent to 15 Waterhouse Lane**

Drawing:

**Figure 2: Surrounding Landscape Plan**

Date: 17-07-2023

Version: FINAL

Author: TE

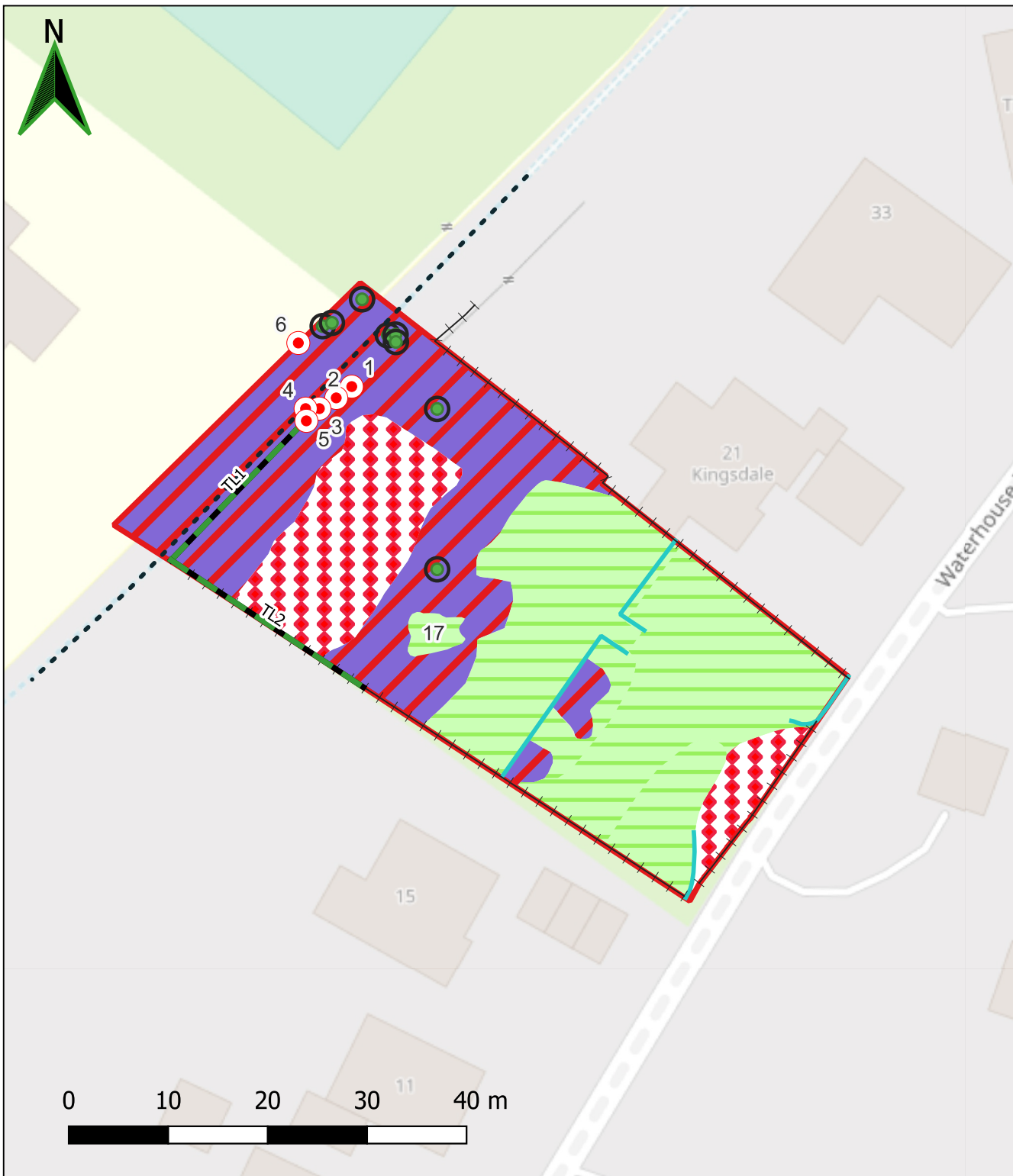
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








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## Legend

-  Site Boundary
-  g3c - other neutral grassland
-  h3 - dense scrub
-  u1d - suburban mosaic of developed/natural surface
-  Line of trees
-  Fence
-  Ditch
-  Wall
-  Scattered Tree
-  Target Note

Project:

**Land Adjacent to 15 Waterhouse Lane**

Drawing:

**Figure 3: Baseline Habitat Plan**

Date: 18-07-2023

Version: FINAL

Author: TE

Job No: P2477

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### Legend

- Site Boundary
- Badger Sett Entrance, With Ref No.
- 10m Buffer
- 20m Buffer
- 30m Buffer

Project:  
**Land Adjacent to 15 Waterhouse Lane**  
 Drawing:  
**Figure 4: Badger Constraints Plan**  
 Date: 01-11-2023      Version: FINAL  
 Author: TE                      Job No: P2477

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## Appendix 1: Planning Policy & Legislation Summary

This appendix serves as a summary of relevant policy and legislation. It is not intended to supersede the policy or legislation documents to which it refers, and the relevant full documents should always be consulted prior to decision making.

### *National Planning Policy Framework 2023*

Biodiversity is a material consideration under the National Planning Policy Framework (2023). Relevant text to biodiversity from the NPPF is described below.

In Section 2 of the NPPF 'Achieving sustainable development', paragraph 8(c), the NPPF sets an environmental objective:

“to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.”

In Section 15 'Conserving and enhancing the natural environment', the NPPF states that:

“180. Planning policies and decisions should contribute to and enhance the natural and local environment by:

- protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland; [...]
- minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures. [...]

The NPPF, in paragraph 185 sets out that to protect and enhance biodiversity, plans should:

- “Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity<sup>65</sup>; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
- promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.”

In determining planning applications, the NPPF paragraph 186 sets guidance that local planning authorities should apply the following principles:

- “if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other

developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest [...];

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

Paragraph 187 states that the following sites should be given the same protection as habitats sites:

- “potential Special Protection Areas and possible Special Areas of Conservation;
- listed or proposed Ramsar sites; and
- sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.”

Paragraph 188 states that “The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or projects will not adversely affect the integrity of the habitats site.”

Paragraph 191 states that planning policies and decisions should ensure new development is appropriate to its location and take into account likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

- “Mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development [...]; [...] and
- limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.”

#### *Government Circular ODPM 06/05 Biodiversity and Geological Conservation*

The government circular provides administrative guidance on the application of statutory obligation and legislation relating to planning and nature conservation in England. It complements the National Planning Policy Framework. The document includes guidance on designated sites (international and national), habitats, and protected species.

Relating to protected species and the requirement for their consideration in planning applications, the government circular, in paragraph 98 details that:

“The presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat. Local authorities should consult English Nature [now Natural England] before granting planning permission. They should consider attaching appropriate planning conditions or entering into planning obligations under which the developer would

take steps to secure the long-term protection of the species. They should also advise developers that they must comply with any statutory species' protection provisions affecting the site concerned."

Paragraph 99, relating to the requirement and timing of protected species survey and mitigation, the government circular states that:

"It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision. The need to ensure ecological surveys are carried out should therefore only be left to coverage under planning conditions in exceptional circumstances, with the result that the surveys are carried out after planning permission has been granted. However, bearing in mind the delay and cost that may be involved, developers should not be required to undertake surveys for protected species unless there is a reasonable likelihood of the species being present and affected by the development. Where this is the case, the survey should be completed and any necessary measures to protect the species should be in place, through conditions and/or planning obligations, before the permission is granted. In appropriate circumstances the permission may also impose a condition preventing the development from proceeding without the prior acquisition of a [Natural England] licence."

#### *The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019*

The term 'European Protected Species' (EPS) is used to describe species listed on Schedule 2 of the The Conservation of Habitats and Species Regulations 2017 (as amended). Regarding these species, Regulation 43 of the Regulations make guilty of an offence a person who:

- "Deliberately captures, injures or kills any wild animal of a European protected species;
- Deliberately disturbs wild animals of any such species;
- Deliberately takes or destroys the eggs of such an animal, or;
- Damages or destroys a breeding site or resting place of such an animal [...]"

Regulation 43 defines that the disturbance of animals includes any disturbance which is likely to:

- Impair their ability:
  - to survive, to breed or reproduce, or to rear or nurture their young; or
  - in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
  - to affect significantly the local distribution or abundance of the species to which they belong.

A person guilty of an offence under Regulation 43 is liable on summary conviction to imprisonment for a term not exceeding six months or to a fine, or to both.

#### *Wildlife and Countryside Act 1981 (As Amended)*

The Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000) lists species on Schedule 5 for which the Act make it an offence to:

- Intentionally kill, injure or take;

- Recklessly or intentionally damage or destroy, or obstruct access to any structure or place which any wild animal included uses for shelter or protection;
- Recklessly or intentionally disturb any such animal while it is occupying a structure or place which it uses for shelter or protection.

Some species receive partial protection under the Act, which limits their protection under the Act to intentional killing or injury.

All wild nesting birds are protected under the Act, making it an offence to:

- Intentionally kill, injure or take any wild bird; and
- Take, damage or destroy the nest (whilst being built or in use) or eggs of any wild bird.

Some bird species are afforded special protection via their inclusion in Schedule 1 of the Act, which makes an offence to intentionally or recklessly disturb any schedule 1 bird building a nest or which is in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird, or whilst such a bird 'leaks' (i.e. congregates for community courtship behaviour).

Schedule 9 of the Act makes it an offence to cause any plant listed to grown in the wild, unless all reasonable steps were taken to prevent an offence and due diligence was exercised.

The Act sets out provisions to protect Sites of Special Scientific Interest (SSSI).

#### *Natural Environment and Rural Communities Act 2006*

Section 40 of the Act places a legal duty on public authorities (including planning authorities) to have regard to biodiversity conservation in their normal functions (including planning applications).

Under Section 41 of the Act, lists of Habitats of Principal Importance (HPI) and Species of Principal Importance (SPI), of principal importance for the purpose of conserving biodiversity, are produced which serve to guide public authorities in carrying out their functions with consideration for biodiversity conservation.

#### *Wild Mammals (Protection) Act 1996 (as amended)*

The Act protects wild mammals against certain cruel acts, including intentional crushing, downing or asphyxiation.

## Appendix 2: Photographs



Photo 1: Grassland at the site



Photo 2: Grassland at the site



Photo 3: Dense scrub and tree line TL1



Photo 4: Tree line TL 2



Photo 5: Suburban mosaic of developed/  
natural surface



Photo 6: Scattered trees in the northwest of the site



Photo 7: Mammal hole at Target Note 1



Photo 8: Mammal hole at Target Note 2



Photo 9: Mammal Hole at Target Note 3



Photo 10: Mammal Holes at Target Notes 4 and 5





Photo 11: Mammal path and squeeze under fence at northwest site boundary, Target Note 6



Photo 12: Badger exiting Mammal hole 5



Photo 13: Badger entering Mammal hole